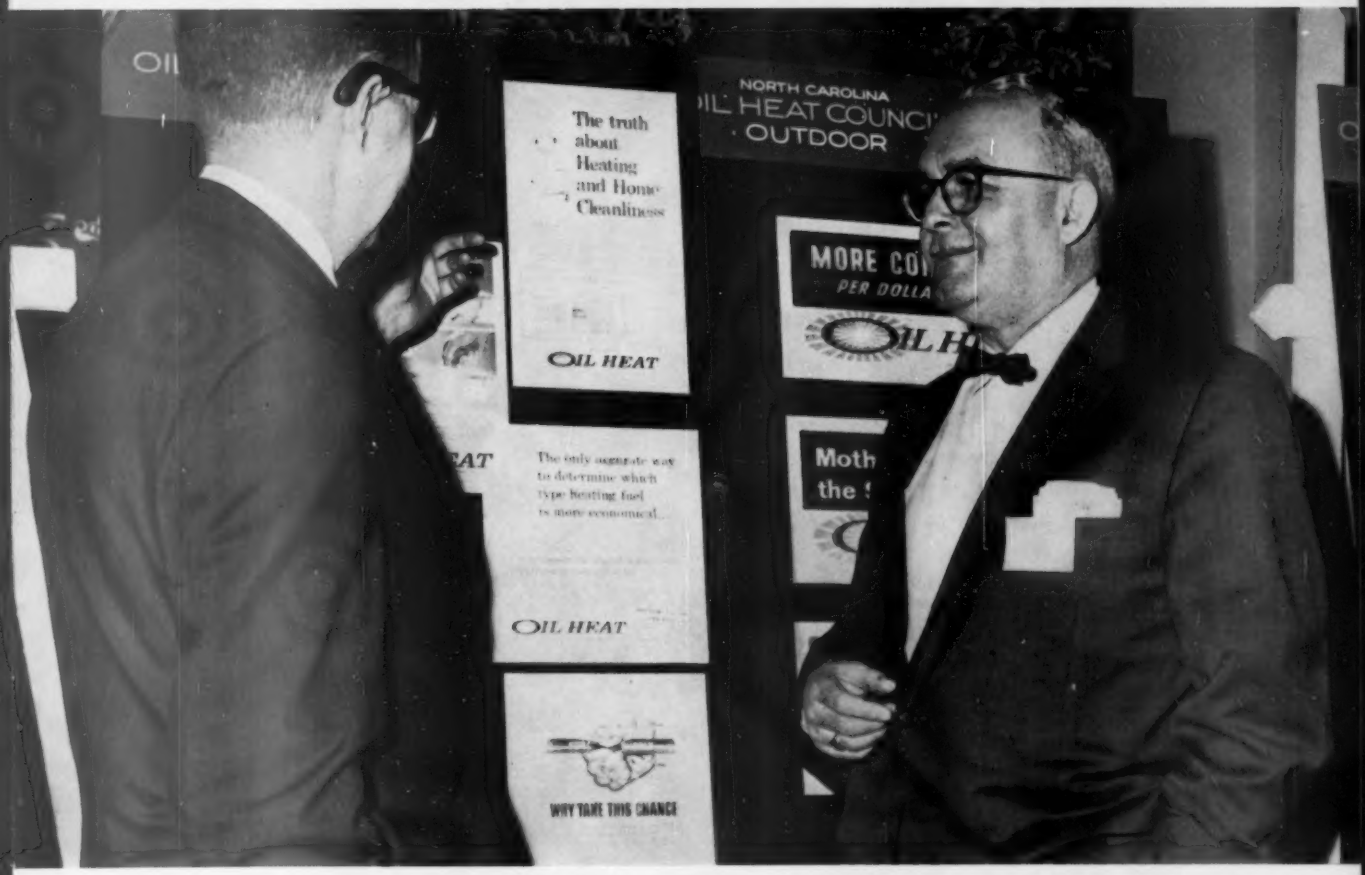
fueloil & oil heat

APRIL
1961
★ ★ ★
EDITION

39 Years devoted to Progress in Oilheating and Airconditioning



Glenn Werly, (right) the new president of the National Oilfuel Institute, talks with Ralph Hartell at the 8th Workshop Conference of the National Fueloil Council in Atlantic City.

Better Heating with Zones

Schooling the tank truck Salesman

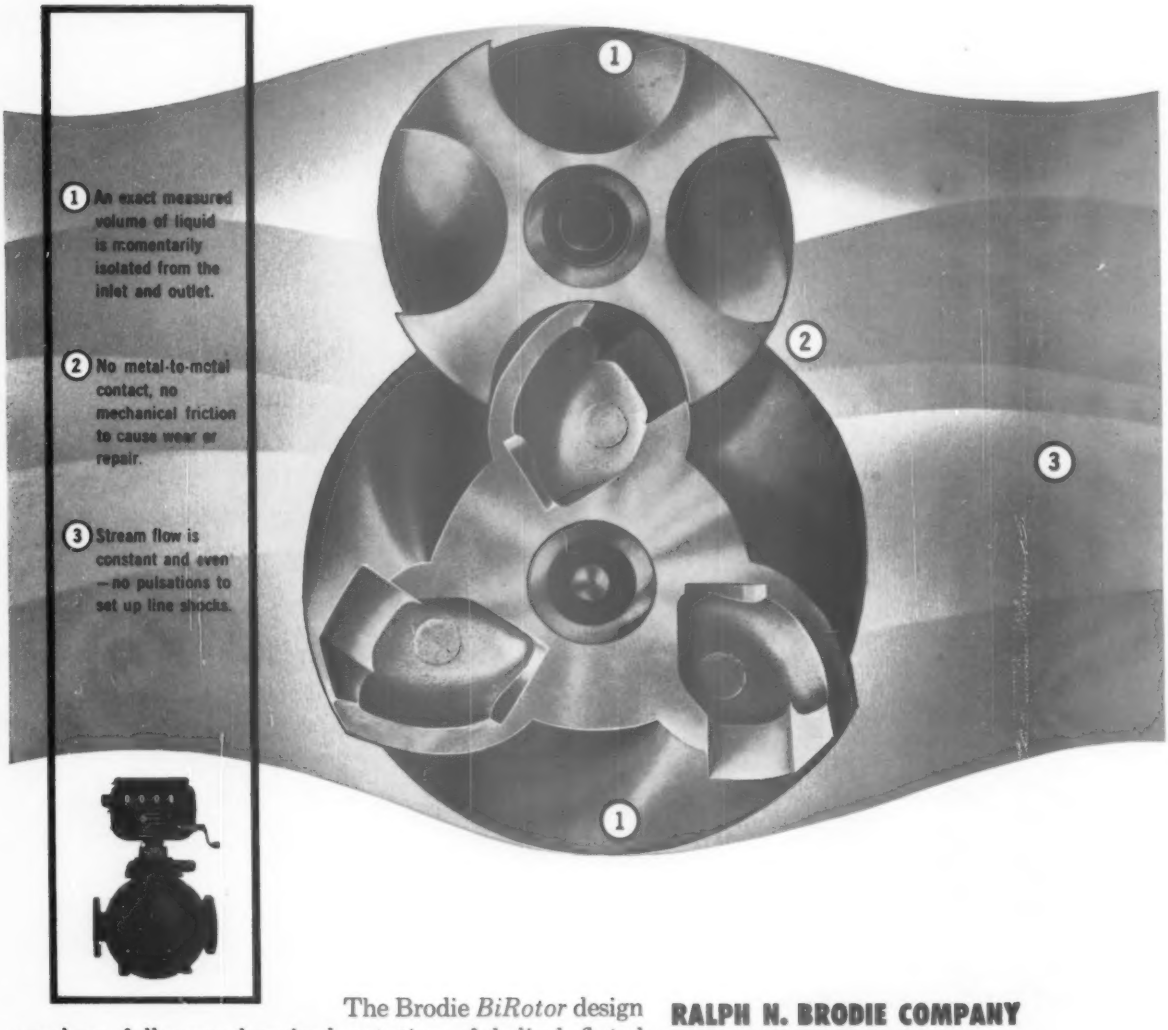
Farmers could use more oil

Profits in better Heating

•How the Brodie

TRUE ROTARY PRINCIPLE

...assures full-capacity sustained accuracy


1 An exact measured volume of liquid is momentarily isolated from the inlet and outlet.
2 No metal-to-metal contact, no mechanical friction to cause wear or repair.
3 Stream flow is constant and even — no pulsations to set up line shocks.
1
2
3
1

The Brodie *BiRotor* design employs fully synchronized *rotation* of helical fluted rotors that maintain complete static and dynamic balance under all operating conditions. There are *no* sliding parts, no oscillating pistons to wear – no vibrations, no pulsations in the measuring chamber.

With true rotary action – *BiRotor* action – the liquid moves freely and continuously through the rotors without interrupting line flow. There is no mechanical friction in the measuring unit to cause wear or repair. With this sustained accuracy, there's no need to baby a *BiRotor* – they operate up to full rated capacity.

RALPH N. BRODIE COMPANY
San Leandro, California, U.S.A.
CABLE ADDRESS: "BRODICO"

MT. VERNON, N.Y., 550 So. Columbus Ave.
DALLAS 7, TEXAS, 167 Parkhouse St.
SEATTLE 9, WASH., 221-9th Ave. N.
CHICAGO OFFICE: 1227 Circle Ave., Forest Park, Ill.
LOS ANGELES 22, CALIF., 5401 Sheila Street 008

BRODIE
METERS-VALVES

REPRESENTATIVES WITH STOCKS AND SERVICE FACILITIES IN ALL PRINCIPAL CITIES

Famous fuel unit "firsts" from Sundstrand...

—the anti-hum diaphragm—

Remember the good (?) old days when you had to install quieting devices to silence annoying "tank hum"? It seems like only yesterday, but actually Sundstrand introduced the first fuel unit on the market equipped with an anti-hum diaphragm in April, 1939.

This diaphragm reduced significantly the basement tank hum caused by vibration in the oil column resulting from pulsations in the intake line. And since the oil didn't pass *through* the diaphragm, there was no restriction in flow rates.

Not content with this major innovation, Sundstrand engineers went back to their drawing boards and in March, 1953, the first *nylon* anti-hum diaphragm was born!

This new noise silencer completely eliminated what had been a frequent source of complaint from home owners. Constructed of acid- and oil-resistant nylon, this diaphragm acts as a pneumatic pillow to cushion the oil pumped into the strainer chamber.

Today, no manufacturer would think of producing a fuel unit without a similar device based on this original Sundstrand design. This constant product development and certified service guarantee that you *always* get an up-to-date, quality fuel unit when you specify Sundstrand.

AVIATION & DEFENSE SUNDSTRAND

MACHINE TOOLS SUNDSTRAND

PACKAGING MACHINERY SUNDSTRAND

INDUSTRIAL EQUIPMENT SUNDSTRAND

INTERNATIONAL SUNDSTRAND

GENUINE PARTS CERTIFIED SERVICE

Look for this sign —it's your guarantee of genuine parts and certified service.

SUNDSTRAND HYDRAULICS

DIVISION OF SUNDSTRAND CORPORATION

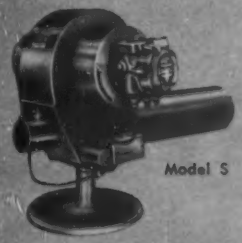
2210 Harrison Ave., Rockford, Ill.—Eastern Sales Office: 89 Summit Ave., Summit, N. J. Made in Canada by John Inglis, Ltd., 14 Strachan Ave., Toronto; in Sweden by Sundstrand Hydraulic AB Stockholm, in France by R. S. Stockvis et Fils, S. A., 20-22 Rue Des Petits-Hotels, Paris

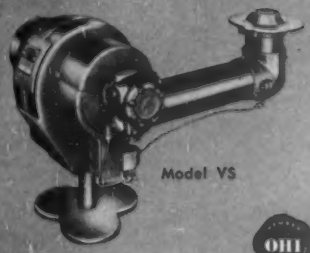
SUN-RAY
FULLY AUTOMATIC

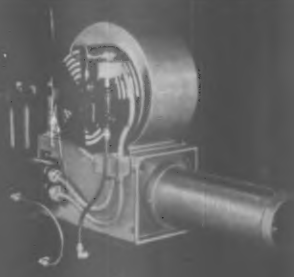
OIL BURNERS—WATER HEATERS—SUPPLY PUMPS

famous the world over for Quality and Economy

SUN-RAY "SHELL HEAD" OIL BURNERS
WITH ORIGINAL HIGH TEMPERATURE COMBUSTION HEAD
Capacities 0.5 to 10 G. P. H.



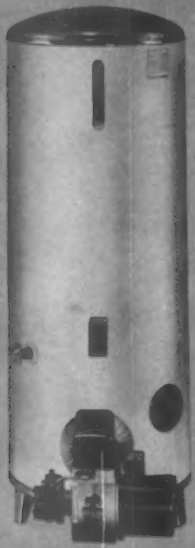




SUN-RAY #4-5 OIL BURNERS
Approved for #4 and #5 Oil
Capacities from 3 to 25 G. P. H.

FUEL TRANSFER AND SUPPLY PUMPS
2 Sizes—12 Models • Up to 300 G. P. H.
RAISES OIL AS HIGH AS 300 FT. FOR 2-PIPE THROUGH 25 FT. IDEAL FOR OVERHEAD OR SUBMERGED INSTALLATIONS—LONG RUNS—HIGH LIFTS. MODELS AVAILABLE FOR OTHER HEIGHTS.

SUN-RAY OIL-FIRED WATER HEATERS
3 Sizes—8 Models
Copper-Lined, Glass-Lined, Stone-Lined



WILL SUPPLY UP TO 180 GALLONS OF HOT WATER PER HOUR—100° F. RISE. LONG, LIBERAL GUARANTEES. NO TEMPERATURE RESTRICTION ON STONE-LINED OR COPPER-LINED MODELS.

SUN-RAY BURNER MANUFACTURING CORPORATION

139-22 QUEENS BOULEVARD • JAMAICA 35, N. Y.

THE SUN-RAY FAMILY OF QUALITY PRODUCTS FOR HOMES • FACTORIES • WAREHOUSES
APARTMENT BUILDINGS • CHURCHES • SCHOOLS

fueloil & oilheat

Publication and Editorial Office:
2 West 45th St.,
New York 36, N. Y.

APRIL 1961

VOLUME 20 NUMBER 4

CONTENTS

SUBJECT	PAGE	AUTHOR
Better Heating with Zones	45	JOHN W. SCHULZ
Schooling the tank truck Salesman	49	HENRY D. CRANE
How about Leasing?	52	IRVIN HOCHBERG
Harvest of Ideas	55	
OHI *Convention, April 23-27*	58	
Farmers could use More Oil	62	G. W. FLINT
1960 Installations were 488,551	65	
Penn Dealers have builder Promotion	66	
Profits in better Heating	68	HENRY J. BLANCHARD

COMMERCIAL - INDUSTRIAL SECTION

Distributor aims at Satisfaction	71	MARTIN SCHWARTZ

NEWS	*DEPARTMENTS*	
	6	Editorial Leaks
Oilheating affects home Sales	22	
	8	Government on Fuels
Construction up; single family Homes down	22	
	11	Oilheating Trends
Virtues of Oil vs. gas Heat	30	
	14	Fueloil Prices, Degree-Days
Ed Heeg honored for industry Service	51	
	16	Names in the News
Better Business Bureau issues fuel Standards	51	
	34	Industry Groups
Controls Classes start in New York	54	
	78	Manufacturers' Activities
API Subcommittee holds distillate Conference	61	
	84	Readers' Problems
Minnesota Survey shows Oil most popular	64	
	90	New Products

AUDITED PAID CIRCULATION ABC

OHI

BPA

U.S. & CANADA

YEARLY:
$3.00

3 YEARS:
$5.00

SINGLE COPY:
$1.00

COPYRIGHT 1961, HEATING PUBLISHERS, INC.
ALL RIGHTS RESERVED

NO PART MAY BE REPRINTED WITHOUT WRITTEN PERMISSION

PUBLISHED MONTHLY
BY HEATING PUBLISHERS, INC. ADDRESS ALL CORRESPONDENCE FOR EDITORIAL, ADVERTISING AND CIRCULATION DEPARTMENTS TO: 2 WEST 45TH STREET, NEW YORK 36, N. Y. PHONE: MURRAY HILL 2-4786. PUBLICATION OFFICE: 109 MARKET PLACE, BALTIMORE 2, MD. ESTABLISHED 1922. ENTERED AS SECOND CLASS MATTER AT THE POST OFFICE AT BALTIMORE, MD.

ROBERT GRAY, *Editor*
Bert Dunphy, *Managing Editor* John W. Schulz, *Technical Editor*
V. M. Douglas, *Western Editor* Margaret Mantho, *Assistant Editor*
George F. Farrell, *Circulation Director*
A. G. WINKLER, *Advertising Director*
Robert W. Hundley, *Advertising Sales Manager*
Ruth Wertheimer, *Advertising Production Manager*

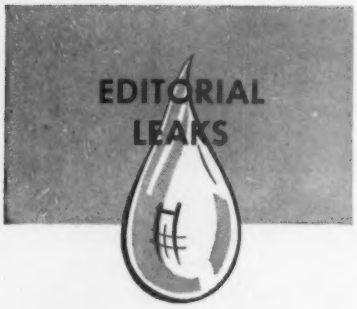
Larry Alles, *Midwest Manager*
Room 200 *Chicago 4, Ill.*
224 S. Michigan Ave. *Phone: Wabash 2-9548*
Pacific Coast Representative: Don Harway
336 North Central Ave., Glendale 3, Calif. Phone: Chapman 5-9241

Among other things . . .

In our competition with electric heating we often run into the claim that with individual thermostats in every room they provide the heat exactly as wanted and save money by not needlessly overheating any space. Naturally, this is overplayed but there's some truth in it, particularly because of the influence of sun and wind on homes that operate with one thermostat. Our answer is zoning, by which we can balance the load to the needs. Schulz brings the first of two articles on the subject, dealing with warm air zoning. Next month with wet heat.

Crane is back this month with some good reading on how strong fueloil distributors select and train their tank truck salesmen. When done right, there's a lot to it.

Our surprising possibilities to increase the use of fueloil on farms is quite an eye-opener as set forth by author G. W. Flint, a major oil company scientist. The thought that heating barns saves a lot of money compared to keeping livestock warm with extra grain feeding offers a real challenge to our industry's self-starters.



THE API RESEARCH Conference on Distillate Oilburning at Chicago in mid-March was highly impressive to say the least. The summary of details is to be found later in this issue. Sitting for two days surrounded by engineers and scientists (doctors, a dime a dozen) the editor first tried to look like he was one of them and then tried to understand what the speakers had in mind.

Of course, everyone else knew because they were talking to their own kind. Three of the papers will be published in the magazine because they were closer to being of broad dealer interest. The others can be had by writing to API's Division of Marketing, 1271 Avenue of the Americas, New York 20, N. Y.

There is no question about this first such conference being of great value to the industry through its disclosure and introduction of numerous channels of fundamental research.

There's one trivial detail, though, that rankled a bit. That was the tendency for some scientists to refer to oilheating equipment as "hardware." We know it's the scientific jargon of the times. Nuclear specialists call intercontinental missiles "hardware" as distinguished from the energy sources on which they're working.

But, gentlemen, our manufacturers are more sensitive. Their beautiful blue enameled and chrome plated oil-powered heating units would never be found in a hardware store surrounded by eight-penny nails and cup hooks.

GLENN WERLY, the gentleman selected to mastermind the new National Oilfuel Institute, already seems a splendid choice. Since his appointment he has been gaining background by visiting the several important industry gatherings, where he is always introduced and asked for some off-the-cuff comments.

He is very forthright in his acknowledgment that he has a lot to learn and also that he is quite enthusiastic over the challenge of the new job.

A gentleman of some means, Werly is in position to think and act with complete objectivity and independence, totally unhampered by industry politics or pressure groups. We at the magazine are enthusiastic over the new approach.

AND WHILE we're on the subject of the new "one-roof" trade association that is slated to be in business May first, we certainly owe a nod to Len Marshman who for three years headed the committee attempting to bring it to pass.

It was a tough assignment but Len is just as tough. Now that he's moved away from fueloil to crude oil, and from New York to Los Angeles, he will naturally be getting more difficult assignments through the years, but he'll tackle them with more confidence because of having licked this particular one which was a "dilly."

THE PROVIDENCE, R. I., School Committee on February 13 voted 4-3 to replace two gas boilers at the Lexington Avenue School with oil boilers because one of the gas boilers had exploded twice in the past 18 months. It was a long, loud meeting that degenerated into name calling. One shouted, "Do we have to wait until we have a number of charred bodies out on Lexington Avenue?"

AND ONE MORE gas item, please. It's the *Newark Sunday News* of March 5, with the story of a fatal explosion in Metuchen, nearby. It describes the cause as a case of running natural gas in old lines originally planned for manufactured gas. The new gas being much drier destroys the caulking in the joints of the old style piping. When the ground is frozen the leaks can't get up through the soil so run along the pipe into houses, often following a water line into homes that use no gas.

This is an example of the gas industry's growing pains but it will cost a few skillions to get all old style piping replaced with the new welded lines.

SOLAR ENERGY for heating probably won't bother us much in this generation but its possibilities have been demonstrated quite a few times.

At Perpignan, in the French Pyrenees, the large Wilson Hotel has on its roof 25 two-square-meter mirrors inclined at a 45° angle which provide 80% of all the hot water needed for radiators, water taps, cooking and other purposes. The water actually boils on the roof and then is piped to large basement storage tanks from which it is circulated throughout the building.

Electronic controls automatically switch on an oil boiler when needed to supplement the solar system.

ENCOURAGED by the success of the fueloil branch of the petroleum industry in raising money to promote oil heat, the API's new Travel Development Committee is making some very significant plans for a program to be disclosed at the November annual meeting of the Institute.

Under the chairmanship of Harry Moir, Pure Oil Co., the committee will undertake research into effectiveness of appeals to stimulate driving.

IT IS IN this April issue each year that we report the final statistics on what happened in the way of oilheating installations for the previous year. The number of jobs put in was 488,551, although factory shipments were a little higher at 498,614. The difference was in exports and stock adjustments.

But . . . and this is startling . . . after we omit the installations that replaced old oilheating jobs and after we deduct the losses to other fuels we arrive at a net gain in domestic heating fueloil users of only 160,932.

So, you might say, we're still gaining volume, and so we are. But did you observe the article in the March issue that showed how our newest "contemporary," electric heating, added to its roster 127,600 fully heated homes last year, or four-fifths as many as we?

Yoicks! Gadzooks; Zodsboddikins! These are stirring times!

SCOVILL HAS THEM All

permanent or reattachable

FUEL OIL COUPLINGS FROM ¾" to 4"
520-H and Inter-Flo Permanently Attached. ¾" to 4"
Dubl-Grip Reattachable. 1" to 1½"
Super-Grip Reattachable. 1" to 4"
GAS PUMP COUPLINGS FROM ⅝" to 1"
570-H
Permanently Attached.
⅝" to 1"
Dubl-Grip Reattachable.
¾" to 1"
SPRING GUARDS FOR FUEL OIL AND GAS PUMP HOSE
Fuel Oil Couplings with External Spring Guard.
¾" to 3"
Reattachable Dubl-Guard Couplings with Internal Spring Guard. ¾" to 1"
COMPLETE EQUIPMENT FOR ATTACHING BY MACHINE OR HAND IS AVAILABLE.

Scovill now makes the industry's most complete line of couplings for fuel oil and gas pump hose . . . in both reattachable and permanently attached types . . . in a wide range of sizes . . . to both commercial and military specifications. As always, Scovill provides the fastest delivery and the best service with warehouses across the country and the largest sales force in the industry. For complete details, write: Scovill Manufacturing Company, Industrial Couplings, Waterbury 20, Connecticut.

Main offices: 99 Mill Street, Waterbury, Connecticut. **Cleveland, Ohio:** 4635 West 160th Street. **San Francisco, Calif.:** 434 Brannan Street. **Jacksonville, Fla.:** P.O. Box 8366. **Houston, Texas:** 2323 University Boulevard. **Toronto, Canada:** 334 King Street, East.

Hose Couplings by
SCOVILL

1SH61

GOVERNMENT INFLUENCE ON FUELS

by James M. Collins

WASHINGTON — The Kennedy Administration has now put its stamp on the oil imports control program—maintaining restrictions on residual fueloil, but with a significant loosening of the total inflow.

Some changes also are ahead for the other parts of this program, affecting crude and unfinished oils and finished products, like gasoline, diesel oil and other products.

In revising the residual program, the Interior Department decided to let Bureau of Mines specialists figure out the "gap" between domestic supply and demand, along the East Coast, and then to fill the gap with needed imports. Under the Republicans, the total residual allowable became a political football. Imports were slashed at the beginning of allocation periods—to keep the coal industry happy—and then supplementary quotas had to be allocated when shortages threatened.

In revising the program, the Department also brought in smaller operators along the East Coast, making them eligible for quotas based on their terminal inputs. This was a gesture to small business. The quotas for these smaller companies will come out of quotas allocated to "historic" importers, mainly the major companies.

On crude oil imports, Secretary Udall plans to hold a public hearing sometime in the spring, where all viewpoints can be explored. The objective will be action bold and imaginative in revising control of crude-unfinished oil imports. There is little doubt that import controls will be continued—but they will be revised to make them more palatable to our Western Hemisphere neighbors, like Venezuela and Canada and Mexico, and to do more for the small domestic producers and refiners.

It would not be surprising if a whole new concept is introduced—to treat the Western Hemisphere as a unit. But, this will require some sort of international body, within the hemisphere, to coordinate oil activities. President Kennedy, in a major speech dealing with Latin America, told the South Americans that he is ready for serious discussion of commodities on a "case-by-case" basis. One major item, of course, is petroleum.

Fuels Study Pushed

Meanwhile, the coal industry has now abandoned hopes that a joint committee—of Senate and House Members—will be set up to make a "national fuels policy" study. Instead, it has agreed to go along with either a Senate, or a House, investigation. House Speaker Rayburn (D, Texas) refused to OK the joint committee idea, but he permitted a resolution to reach the House floor for a special House group to make this probe. At the moment, this resolution is still awaiting floor action in order to give coal men a chance to get the Senate to set up a committee—which coal men would prefer, anticipating a big budget there, with the membership slanted more favorably towards the coal industry. Sooner or later President Kennedy plans to give a boost to the idea that a fuels "policy" is needed for the country. So, the prospects still are strong that some such investigation will be made, either in Congress or by the Administration.

DJ Probes Oil Prices

The Department of Justice and Federal Trade Commission are looking closely into home-heating fueloil price increases in the Northeast, particularly, during the past winter. Objective is to discover, if possible, whether there was "collusion" on oil prices, in violation of antitrust laws. The probe is continuing.

'Gas' Tax Increase Seen

In Congress, Kennedy's first major program affecting the oil industry is now under consideration. He has urged that the "temporary" 4-cent gasoline tax stay at that level indefinitely, and that the taxes on trucks, tires, and diesel fuel be significantly increased—in order to keep the huge highway program on schedule and to pay for it as it is built without the use of any funds in the Treasury, and without "deficit" financing.

He told Congress that if it did not want to adopt higher taxes on trucks, he believed the gasoline tax should be raised to 4.5 cents a gallon.

Oil men, of course, are bitterly protesting the idea of keeping the tax at four cents, pointing out that Congress in 1959—when it raised the tax—pledged it would be only temporary.

The chances are Congress will find some compromise with the White House and that the tax will remain at four cents—or be cut only slightly—and that taxes on the big truckers will be increased.

Oil-TBA Deals Illegal

Also seriously affecting the marketing practices of some major oil companies is the decision just issued by Federal Trade Commission. The FTC ruled that contracts between the oil suppliers and big rubber companies, providing for commissions to the oil companies on TBA (tires, batteries and accessories) items sponsored at their retail service stations are illegal.

More important than the ruling on TBA, was language in the decision that reflects, generally, on major oil company policies at the retail gasoline level. The FTC said, for example, that dealers' "freedom to buy and sell as independent merchants is shown to be less complete in practice than in theory." Another comment was that station dealers are more often than not small businessmen who are "in a woefully weak bargaining position vis-a-vis (their) oil company lessor."

Agencies Shakeup Planned

Meanwhile, President Kennedy plans to send Congress early in April a special message, with specific recommendations, dealing with the federal regulatory bodies like Federal Power Commission. Objective will be to speed up procedures to clean up the huge backlog of gas rate cases now pending in the FPC. Kennedy may also suggest specific legislation to deal with producers' gas prices.

THE INDUSTRY'S ONLY ALL PURPOSE NOZZLE REDUCES YOUR INVENTORY BY 50%*

Ask for Delavan's type W — not "hollow, semi-solid or solid"

No longer is it necessary to carry many nozzles in a variety of spray patterns. One type, the Delavan W all-purpose nozzle, effectively fires any air pattern (in flow rates between .50 and 2.00 GPH). This simplifies and reduces your inventory by at least 50%.

The type W has the same exclusive features found on other superior Delavan nozzles: separate distributor, for perfect centering; separately machined orifice insert; bi-metal construction; and domed, sintered filter.

Instead of worrying about different spray patterns and the right nozzles to carry, stock Delavan's all-purpose type W. It will give you stable, quiet fires time after time — the kind that reduce your service calls and keeps customers smiling (and warm).

* Up to 2.00 GPH

DELAVAN Manufacturing Company

Canadian Representative—Ontor Ltd., 12 Leswyn Road, P.O. Box 608, Station T, Toronto 10, Ontario, Canada

NOW... BOOST

Spring and Summer Business with...

Check the qualities and the features . . . then the price. New Moncrief Air Cooled Condensing Units reduce your costs while giving your customers satisfaction which, dollar per BTU, is unexcelled.

Easy, speedy installation and service are accomplished by placing operating parts within easy reach and by making the refrigerant and wiring circuits uncomplicated. Quiet operation is achieved with low-velocity, top discharge of condenser air through the large-area coil from a powerful fan and motor, housed completely inside the cabinet. Unsheltered outdoor installation of the rugged, zinc-coated cabinet is Listed by U. L.

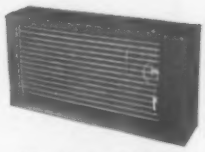
Companion Moncrief Furnaces, with extra blower capacity built-in, and matching Plenum, Duct and Counterflow Evaporator Coils make ideal, competitively priced heating-cooling combinations. Versatile 3, 4 and 5 Ton Air Handling Units complete the line.

It's the early-season installations that build sales for the entire season. So start now. Call your Moncrief Wholesaler, now.

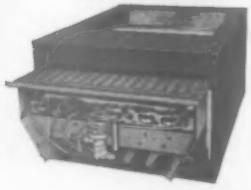
NEW AIR COOLED UNITS

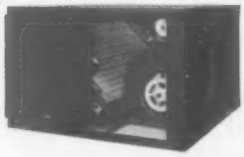
2·3·4·5 Ton Condensing

Upflow Counterflow



Horizontal Blower-Coil



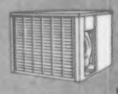


Gas and Oil Winter A. C. Units . . . Plenum Type Evaporators.

Gas and Oil Counterflow Units . . . Counterflow Evaporators.

Gas and Oil Horizontal Furnaces . . . Duct Type Evaporators.

Gas or Oil Combination Year 'Round A. C. Units . . . Air or Water Cooled.



2 Ton (23,000 Btu/Hr.) and 3 Ton (35,000 Btu/Hr.) Air Cooled, Self-Contained Units.

MONCRIEF

THE HENRY FURNACE COMPANY · MEDINA, OHIO

HEATING AND AIR CONDITIONING UNITS

MONCRIEF SINCE 1895

FURNACE PIPE AND FITTINGS

Oilheating & Airconditioning
MERCHANDISING NEWS

2 West 45th Street New York 36, N. Y.

Copyright 1961, Heating Publishers, Inc. All rights reserved No part may be reprinted in any form without permission.

Monthly oilheating Trends

FEBRUARY installations of domestic oilheating equipment were approximately 31,735 which is 17% below last year's adjusted figure of 38,370 burners and units.

When we speak of "adjusted" data for the previous year we have revised the 1960 monthly estimates to conform with the final year's total of 488,551 installations, which we prepare each year for the April issue of FUELOIL & OIL HEAT. This final tabulation also includes the state breakdown and the separation of sales by types of application.

The breakdown for February shows: New Homes, 6,474; Replacements of old oilheating, 19,834; and Conversions from other fuels, 5,427. For the first two months total installations were 73,044 which is only 4% below last year's adjusted figure of 76,307.

The two month breakdown shows: New homes, 17,173 compared to 27,724 last year; Replacements of old oilheating, 44,702 as against 33,120; and Conversions from other fuels, 11,169 which is down from last year's 15,463.

During February oilheating dealers installed an estimated 727 central airconditioning jobs. They also installed approximately 2,364 oil-powered water heaters using mechanical burners.

Oilheating Stocks: At the close of February dealers were holding approximately 34,008 domestic oilburners and units which compares with 27,620 a month earlier, and with 64,604 on the same date last year.

The current stocks are divided: separate burners, 15,168; boiler-burner units, 8,842 and furnace-burner units, 9,998.

Factory stocks of oilburners and units on December 31, 1960 (the latest available data) were 45,883 compared with 40,360 at the end of 1959.

Tank Stocks: At the end of February, tank stocks in dealer hands are estimated at 26,914 compared with 17,490 at the end of January and with 34,444 a year ago.

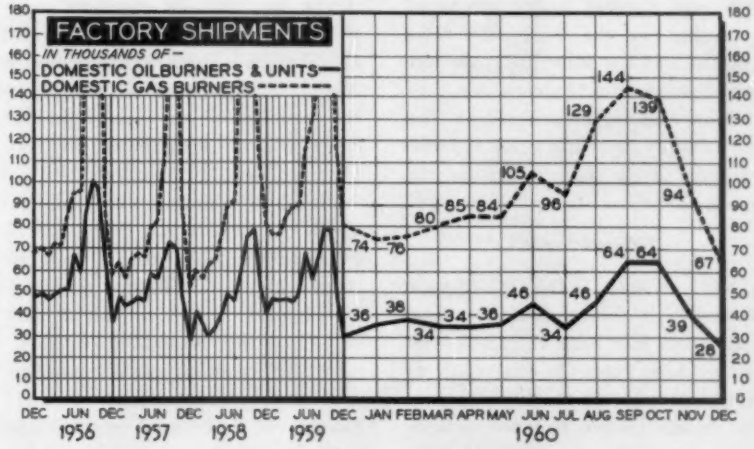
The current stocks were divided: 220-330 gal. size 25,096; sizes 550-675 gal. 1,000; and sizes 1,000 gal. and larger 818.

February Minimum Retail Prices Key Dealers

	Feb. Avg.	*Jan. Avg.*
Separate Burners	$318	$318
Boiler Burners	745	745
Furnace Burners	611	611

Price Index: Separate Burners 1947-49 is 100%

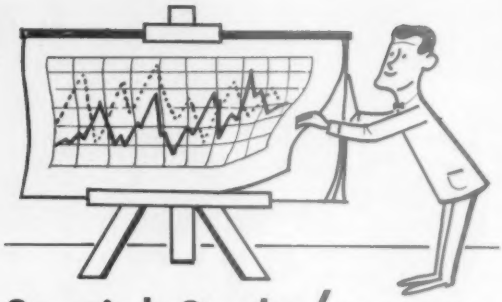
WHOLESALE			
February	97.1	Six months ago	94.6
January	97.1	Year ago	94.8
RETAIL			
February	91.7	Six months ago	90.9
January	91.6	Year ago	91.5


FACTORY SHIPMENTS
IN THOUSANDS OF—
DOMESTIC OILBURNERS & UNITS
DOMESTIC GAS BURNERS
DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1956 1957 1958 1959 1960

Shipments of Oilburners and Units
(Including Exports)

Adjusted to include manufacturers other than those reporting to Census Bureau, FUELOIL & OIL HEAT's estimates of shipments are:

	DECEMBER			TWELVE MONTHS		
	1960	*1959*	*Percent Change*	*1960*	*1959*	*Percent Change*
Separate Burners	19,822	21,875	— 9.4	343,748	452,734	—24.1
Boiler Burners	2,016	2,166	— 6.9	43,028	48,625	—11.5
Furnace Burners	6,195	6,877	— 9.9	111,838	144,870	—22.8
All Domestic	28,033	30,918	— 9.3	498,614	646,229	—22.8
Commercial	2,683	3,351	—19.9	38,299	41,844	— 8.5
Total	30,716	34,269	—10.4	536,913	688,073	—22.0



Special Study/ THIS MONTH

What additional Functions should the new Association study and perform?

NOW THAT IT has become definite that there will be a universal trade association for the fueloil and oilheating industry, we asked our reporting group this month a number of questions on what they believe the new shop should undertake in the way of expanded service to the industry.

First, to get a line on the present connections of these dealers who so faithfully help with our monthly investigations we learned that 86% of them are members of some group affiliated with the Oil-Heat Institute while 71% are in cities having campaigns sponsored by the National Fueloil Council and are individually supporting these advertising campaigns.

What this shows primarily is that our monthly reporting group is representative of the more substantial elements of the industry.

Effectiveness

Next we asked if they felt that the work done by these two individual organizations had been effective as far as they have gone. On this point, we find that only two-thirds (68%) of the dealers believe that the two individual groups have been doing a significant job. However, it is worth noting that among the dealers that don't feel that the two organizations were particularly effective, the majority with this negative viewpoint were identified with only one of the two associations. In fact, one-third of those companies voting that way were not identified with either group.

Comments on this point found these as typical: "In the Midwest, there has been little OHI activity due mainly to the 'voice of doom' jobber." . . . "Our local program under NFC is too new to show what the benefits will be." . . .

"Some duplication of effort has been wasteful." . . . "Never have been appreciated." . . . "They don't go nearly far enough." . . . "The advertising and promotion programs have slowed the growth of gas." . . . "They do as much as possible with the limited money available." . . . "They have only been effective where there is a strong local organization." . . .

The next question considered what should be undertaken by the merged organization when it starts activity on May 1. This question was limited by the assumption that no additional funds will be available at the start. Here are some of the suggestions:

"Work up tests for conversion of gas to oil." . . . "We need a strong code of ethics with less competition from our suppliers." . . . "Try to stop gas industry subsidies." . . . "Use some of present funds for national advertising." . . . "Start by asking present members and major oil companies for more money." . . . "Promote small dealers to come into the association to produce more revenue." . . .

"The elimination of overlapping would result in economies that would allow national advertising." . . . "All money should be taken from the suppliers." . . . "Tell the oil story better." . . . "Concentrate entirely on local advertising." . . . "Direct campaigns to builders and contractors plus regional editions of magazines." . . .

If, on the other hand, the new president and his staff are able to raise substantially more support from various segments of the industry the question arises as to what new activities are more important to undertake. We gave the dealers a list of six activities most often mentioned and then extra space to fill in additional recommendations.

Among those that we listed, the first choice by a substantial margin was national advertising. The dealers feel pretty strongly that it will increase the stature of oil heat, particularly now that both gas and electric heating have moved so sharply in this direction.

The second recommendation in the point of votes was for more oilheating schools or, of course, training programs in existing public schools or technical institutions. There is a strong feeling in many parts of the industry that present oilheating equipment is of excellent quality if it is installed and serviced by well-trained men.

New Projects

A third choice in new projects to undertake was an investigation of methods to equalize the cost of original equipment with that of competitive fuel heating. The industry is generally familiar with the campaign in the Pacific Northwest. The dealers also know that there are quite a lot of individual company activities in this direction, and many of them would like to have an industry campaign to offset this cost handicap that we have always had to face.

The fourth item in the point of popularity among new projects has to do with local codes and ordinances, and the assumption that the larger association would be able to supply specialists to study the requirements and help fight the battles at the local level. This is not uncommon on the part of gas and electric utilities, and the fueloil crowd has been handicapped through the lack of specialized legal talent for this purpose.

Item number five in order of popularity is the development of additional uses for fueloil—in other words, the industry should be less dependent on residential heating for such a large share of its business.

The final item among the six suggested projects was an investigation of

the problems of air pollution to learn whether domestic heating is a significant factor in this problem. It is known that API has done some work along this line, and some reasonable effort by the new organization should prove fruitful. It is pretty significant, however, that during the days when New York City prohibited the use of private cars and all trucks in order to clear the tremendous snowfall from the streets, the measure of air pollution dropped by two-thirds, thus, showing that the automobile and truck are the principal sources.

Beyond the six points mentioned the voluntary suggestions for broader activities for the new association included these: "Develop suitable gas to oil conversion equipment." . . . "Undertake a program to help residuals to meet gas inroads." . . . "We must have a revolutionary change in equipment to be launched with dramatic national publicity." . . .

"Suppliers should individually establish a seasonal oil price" (Ed. note: this would naturally be helpful, but could not be a function of a trade association.) . . . "Major suppliers should stress oilheating more often in their national advertising and TV programs, this could be included in their present budgets instead of putting so much time on gasoline." . . .

Future Aims

"We need a permanent, aggressive research program." . . . "Representation with FHA, legislatures, home builder organizations." . . . "A trained group of speakers available at all times for service clubs, church organizations etc.; need well-developed speeches, each emphasizing a selling point of oil to offset claims of competition. A short movie would be helpful." . . .

Finally, we asked if the individual dealers would be willing to put in more money than they now do into the work of a national trade association that will undertake these expanded activities. The answer was 92% willing to do it. This certainly demonstrates the dealer segment of the oilheating industry knows it has a serious problem and wants to tackle it with vigor.

A few general comments at the close of the reports included these: "Time is running out." . . . "Treat fueloil market on a regional basis, and where gas enjoys an advantage offer suitable subsidies." . . . "Our present promotional budgets do not compare with the many millions appropriated by gas utilities." . . . "Markets are captured by distressed products—oil was cheap in the thirties, gas in the fifties, possibly electricity in the sixties."

"Subsidies of equipment have worked in one area; they could work everywhere." . . . "Much of the effort is coming too late due to the oil industry's erratic pricing." . . . "The president of the new organization should personally study ten key markets before formulating policies." . . . "Our willingness to contribute more is predicated on the new organization's bettering our present set up." . . .

Oilburner Permits*

FEBRUARY 1961		2 Months 1960	2 Months 1961
1	Albany, N. Y.	0	2
10	Baltimore, Md.	19	20
17	Bridgeport, Conn.	106	58
..	Columbus, O.	1	..
29	Detroit, Mich.	50	87
12	Elizabeth, N. J.	23	20
6	Freeport, N. Y.	23	10
53	Hartford, Conn.	55	74
2	Irvington, N. J.	15	12
13	Meriden, Conn.	31	26
14	Milwaukee, Wis.	27	23
11	Minneapolis, Minn.	32	23
11	Montclair, N. J.	15	18
2	Morristown, N. J.	5	2
8	Mt. Vernon, N. Y.	52	24
..	Newark, N. J.	64	..
45	New Bedford, Mass.	159	88
..	New Haven, Conn.	34	..
1	New Rochelle, N. Y.	18	4
35	Norfolk, Va.	37	62
1	Omaha, Neb.	6	3
4	Orange, N. J.	12	4
2	Passaic, N. J.	4	5
6	Paterson, N. J.	8	10
51	Philadelphia, Pa.**	210	88
33	Portland, Me.	44	52
47	Portland, Ore.	99	111
1	Poughkeepsie, N. Y.	14	8
26	Providence, R. I.	58	70
66	Richmond, Va.	104	112
30	Roanoke, Va.	76	60
24	Rochester, N. Y.	50	43
1	Rockville Centre, N. Y.	6	3
19	Salem, Mass.	103	54
18	St. Louis, Mo.	98	66
5	St. Paul, Minn.	11	12
0	Schenectady, N. Y.	7	2
15	Spokane, Wash.	48	46
36	Springfield, Mass.	103	145
7	Stamford, Conn.	21	13
14	Washington, D. C.	98	54
9	White Plains, N. Y.	16	11
8	Wilmington, Del.	35	30
34	Worcester, Mass.	100	82
..	Yonkers, N. Y.	1	..
	Matched Totals	1,998	1,637
	Percent Change		—18.1%

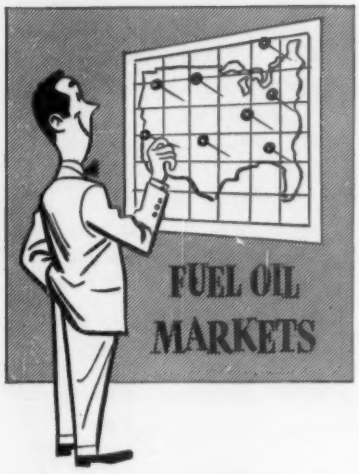
*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

**Courtesy of "Philadelphia Inquirer."

Where is the New home Market?

	No. of Permits Issued Dec.	No. of Permits Issued 12 Mos.
Alabama	532	10,870
Arizona	1,394	19,330
Arkansas	142	3,051
California	12,974	189,432
Colorado	1,209	16,496
Connecticut	753	14,810
Delaware	132	2,540
Dist. of Columbia	449	2,776
Florida	4,414	64,851
Georgia	1,387	19,581
Idaho	111	1,377
Illinois	5,951	45,485
Indiana	840	14,641
Iowa	332	6,293
Kansas	683	6,178
Kentucky	523	7,089
Louisiana	612	10,322
Maine	64	1,445
Maryland	1,218	20,839
Massachusetts	1,282	18,834
Michigan	1,032	26,082
Minnesota	1,086	12,882
Mississippi	184	4,527
Missouri	817	15,662
Montana	97	1,579
Nebraska	444	5,917
Nevada	512	5,247
New Hampshire	90	1,406
New Jersey	1,685	30,940
New Mexico	166	4,723
New York	5,074	81,542
North Carolina	680	10,553
North Dakota	15	1,599
Ohio	1,982	46,046
Oklahoma	581	7,861
Oregon	449	8,432
Pennsylvania	1,510	27,478
Rhode Island	218	3,558
South Carolina	164	2,381
South Dakota	65	1,356
Tennessee	859	13,883
Texas	3,210	52,845
Utah	263	5,733
Vermont	5	226
Virginia	1,133	25,943
Washington	807	14,364
West Virginia	45	1,395
Wisconsin	1,073	16,010
Wyoming	62	1,389

These figures are collected by the Census Bureau from selected areas. They represent approximately 77% of all dwelling construction in the United States.



THE SEVERE winter in Eastern states has continued to push prices of heating oil moderately upward, although there is a pretty good chance that the tabulation next month will show a reversal of the trend.

In the price table, each of the listed New England markets plus Albany showed tank wagon increases this time ranging from .2¢ to .9¢ and averaging slightly over a half cent. These were the only East Coast changes.

The Midwest had several in each column. Chicago, Minneapolis and Des Moines were down on tank car—typically a quarter cent; and Milwaukee was up a quarter in that column. Cleveland, St. Louis, and Indianapolis had increases at tank wagon level, generally .3¢.

Primary stocks are heading back up and on March 10 were more than 3% above last year East of the Rockies. This industry is so sensitive to price that whenever we get a good increase the refineries start to flood us with product.

The degree-day change from normal to February 28 was 3.5% up or colder in the East and 1.0% or warmer in the Midwest.

Distillate Fueloils

PRIMARY STOCKS*
(Thousands of Barrels)
East of Rockies

	Mar. 10 1961	*Mar. 11 1960*
East Coast	35,158	32,758
Midwest	30,703	26,253
Gulf Coast	14,335	18,799
Total	80,196	77,810

*American Petroleum Institute.

No. 2 Heating Oil
(Including No. 3 & PS200)

Price per gallon as of March 10, 1961

	Tank Car†	*Tank Wagon*
Portland, Me.	11.2	16.3
Boston	11.1	16.0
Providence	11.1	15.6
Hartford	11.35	16.3
New Haven	11.0	15.7
Syracuse	11.8	15.6
Albany	11.2	15.7
New York	11.0	15.4
Newark	11.0	15.2
Philadelphia	10.9	15.4
Baltimore	10.9	15.3
Wilmington, N. C.	11.4	15.0
Washington	11.4	15.6
Richmond	11.35	15.0
Charleston, S. C.	11.4	15.1
Chicago	10.50*	15.1
Detroit	10.50*	15.1
Cleveland	12.0*	15.5
Minneapolis	10.679	15.2
St. Louis	10.35*	15.7
Indianapolis	10.89*	15.7
Milwaukee	10.735*	14.9
Des Moines	10.4	15.3
San Francisco	12.05*	14.8
Portland, Ore.	10.825*	15.1
Seattle	10.6*	15.2
Spokane	12.2*	16.8
Los Angeles	11.55*	14.3

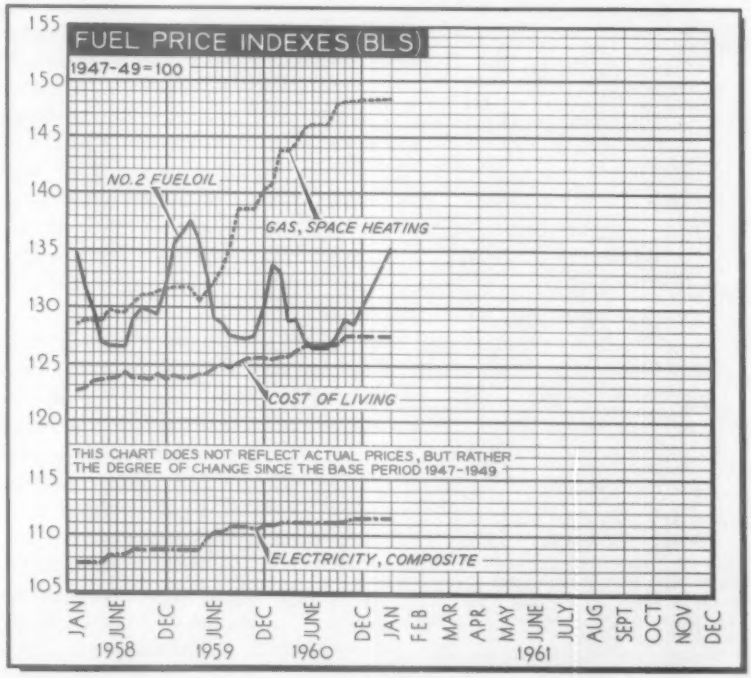
Tank wagon prices shown are for maximum one-time delivery discounts.
*Delivered.

†Tank car prices are typically those paid by fueloil distributors as a purchase price. On the West Coast, this term more often indicates a retail sale to a large commercial account. This usually is a half cent below tank wagon price.

Degree Day Table

	—SEASON TO DATE— *Sept. 1-Feb. 28 Normal*	*1961*	*Percent Change**
Albany AP	5056	5246	+ 3.8
Atlanta AP	2269	2428	+ 7.0
Baltimore CO	3193	3366	+ 5.4
Boston AP	4123	4164	+ 1.0
Buffalo AP	4777	5027	+ 5.2
Charlotte, N.C. AP	2555	2651	+ 3.8
Chicago AP	4648	4346	— 6.5
Cincinnati CO	3465	3774	+ 8.9
Cleveland AP	4322	4730	+ 9.4
Dallas AP	1909	2011	+ 5.3
Denver AP	4397	4286	— 2.5
Des Moines AP	4877	4636	— 4.9
Detroit AP	4600	4526	— 1.6
Grand Rapids AP	5038	4816	— 4.4
Hartford AP	4494	4980	+ 10.8
Helena AP	5881	4961	— 15.6
Houston AP	1168	1200	+ 2.7
Indianapolis AP	4201	4400	+ 4.7
Kansas City AP	3811	3519	— 7.7
Los Angeles CO	1023	578	— 43.5
Louisville AP	3444	3760	+ 9.2
Milwaukee AP	5089	5099	+ .2
Minneapolis CO	5862	5963	+ 1.7
New Orleans CO	993	1094	+ 10.2
New York CO	3670	3740	+ 1.9
Omaha AP	4728	4409	— 6.8
Philadelphia CO	3394	3481	+ 2.6
Pittsburgh CO	3761	3935	+ 4.6
Portland, Me. AP	5367	5498	+ 2.4
Portland, Ore. CO	2985	2605	— 12.7
Providence AP	4339	4460	+ 2.8
Roanoke, Va. AP	3194	3381	+ 5.9
St. Louis AP	3642	3761	+ 3.3
Salt Lake City AP	4358	4112	— 5.7
San Francisco CO	1679	1749	+ 4.2
Sault Ste. Marie AP	6369	6171	— 3.1
Seattle CO	3037	2726	— 10.2
Toledo AP	4617	4742	+ 2.7
Washington AP	3304	3577	+ 8.3

*Compared with normal.



"We've gotten accounts worth up to $1500 a year through the Yellow Pages!" says Wm. H. Pielow, Pres., Olympic Diesel Fuel Co., Seattle, Wash. "We've been in the Yellow Pages since we've been in business—39 years. And my Yellow Pages advertising has more than paid off. Last season, for example, we got a large number of calls from apartment houses and homeowners who said they saw our ads in the Yellow Pages. The business from these new accounts will run from $150 to $1,500 a year."

Display this emblem. It builds your business!

Display ad (shown reduced at right) runs under OIL BURNERS—SERVICING. Call the Yellow Pages man at your Bell Telephone Business Office to plan your program.

fueloil & oilheat

DONGAN Oil Burner Transformers

. . . . . Custom Built to your Specifications

Dongan ignition transformers are standard on leading oil burners; approved by U.L. and C.S.A.; available in many sizes, domestic and industrial. Features include high voltage windings; cool centers; no interference; custom design. Just send us a blueprint of the type of mounting you need!

Get this New Portable Transformer Tester!

You'll like the convenience of Dongan's new test unit. Included: high voltage potential transformer; voltmeter; pair of high tension test leads; pair of primary leads. For bench or field work, easily portable — weighs just 15 pounds. *Write for prices.*

In your pocket . . . complete data for replacement transformers: pictures, cross-index tables that give specific Dongan replacements, dimensions, mounting drawings and instructions. Ask for your complimentary copy today. .

SEND FOR YOUR FREE TRANSFORMER CATALOG TODAY

The Dongan Line Since 1909

DONGAN ELECTRIC MANUFACTURING CO.

2981 Franklin St., Detroit 7, Mich.

Names in the News

J. W. Cowan has been elected president of Ace Engineering Co., Chicago, while *R. E. Hoffman* succeeds him as vice-president and general manager, a post Cowan held for 15 years. *A. F. Jelenc* heads up research and development in collaboration with *Arnold Eckstein*. Cowan as president will concentrate on new product development and long range planning.

Lee Epley has been appointed director, advertising and sales promotion, Chrysler Corp.'s Airtemp Div., Dayton, Ohio. Epley will succeed Richard R. Routh, Jr., who has joined the New York office of Grant Advertising, Inc. Routh will continue to supervise the Chrysler Airtemp account. In his new position, Epley, who has been with the division for twenty years, will direct Chrysler Airtemp's advertising, national trade shows, national business conferences, incentive programs, sales promotion and the production of collateral printed material.

R. W. Lindsay has been named vice president in charge of sales, The C. A. Olsen Manufacturing Co., Elyria, Ohio. Formerly director of marketing, Lindsay now assumes active direction of all sales activities for the company. He succeeds Edward P. Hayes, executive vice president, who will remain with Olsen as marketing consultant to the president.

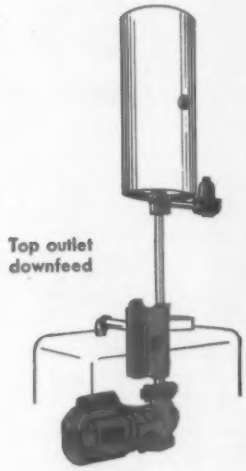
John J. Hayes has been appointed Field Sales Manager. L. J. Wing Mfg. Co., Linden, N. J., manufacturers of heating, ventilating and power plant equipment. Hayes has been with Wing since 1954. *Arnold H. Hansen* has been named to succeed Hayes as New York Sales Manager. He has been a sales engineer in the New York office since joining the company in 1948.

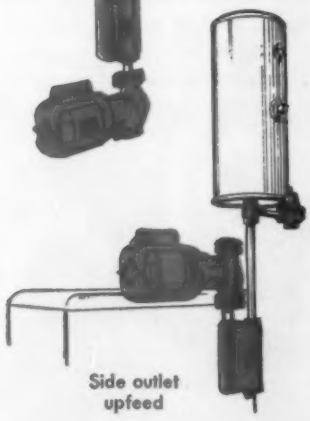
J. E. MacConville has been named sales coordinator, Special Systems division, Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. MacConville will be responsible for the sale and installation of military systems in the southeastern United States and will coordinate his activities with those of other regions and company divisions.

Succeeding MacConville as regional industrial sales manager in Atlanta is *Fred B. Akerson*, who has been serving the company as director of field education and training. *Ellery Hall*, director of Honeywell's Education Center in Philadelphia, will assume Akerson's former duties.

Thomas H. Ford has been named executive vice president and general manager, Danfoss, Inc., Lodi, N. J., a subsidiary of Danfoss of Denmark, the largest manufacturer of air conditioning, heating and refrigeration equipment and controls outside the United States. Ford will be responsible for complete operation of the American Danfoss, which offers a full line of equipment and controls, specifically designed to be competitive in American markets including compressors, fuel pumps, electrical starters, and a full line of temperature and pressure devices such as expansion valves, solenoids and thermostats.

J. E. Price has been named sales manager, Thatcher Furnace Co., Garwood, New Jersey. Price began his career with Thatcher in 1945, most recently operating a sales office and warehouse for the company in Chicago.





PACKAGED FOR PROFIT

B&G® *Hydro-Flo*® PAK

Here is a revolutionary selling help for hydronic systems...increases profits while cutting the cost of this most desirable kind of heating!

The B&G *Hydro-Flo* Pak offers distinct and exclusive advantages to contractors, builders and wholesalers. It is a neat, pre-engineered "package" of all the auxiliary equipment needed for most residential hot water heating systems.

For contractors the *Hydro-Flo* Pak cuts boiler piping time from hours to minutes—permits control of labor cost because the installing time required is accurately known. The Pak features the B&G Airtrol System—the only *guaranteed* method of removing air from a hot water system and keeping it out.

For builders, the advantages of B&G *Hydro-Flo* Forced Hot Water Heating are made easier to have because the pre-planned and pre-engineered *Hydro-Flo* Pak has reduced the cost.

For wholesalers the Pak means more sales, bigger profits on hydronic heating systems. It greatly simplifies stocking (two units instead of 6), hence lowers handling costs.

And finally, B&G quality assures customer satisfaction.

WHAT YOU GET The B&G *Hydro-Flo* Pak consists of a B&G Booster, famous for quiet operation...guaranteed B&G Airtrol System...choice of B&G Relief Valve or Flo-Control Valve or both...separately packed B&G Compression Tank. Pipe and fittings are also included, cut to exactly the proper lengths.

BELL & GOSSETT
COMPANY
Dept. GP-7, Morton Grove, Illinois

Canadian Licensee: S. A. Armstrong, Ltd., 1400 O'Connor Drive, Toronto 16, Ontario

fuel oil & oil heat

Wes White, ZEPHYR Oil Co., says:

"You make $1 extra per customer per year with the Johnson Fuel Demand Meter"

Wes White clears over $8,000 in 5 years

"I get my $400 investment back 4 times a year," reports Wes White, Mgr. Zephyr Oil Co., Grand Rapids, Michigan.

"That means over $1 extra profit per customer per year. But more important, we have completely ended runouts due to the former degree day system based on limited information.

"The Johnson helps us schedule loads better. It's the best investment per dollar of return we ever made. Has run 5 years trouble free.

"I recommend it to any fuel oil distributor who wants an easy way to increase profits."

Johnson *accuracy* makes the profitable difference

Wes White and many others have found: *Mean* temperatures are no longer enough for figuring oil consumption, especially in mild weather. The Johnson uses *all* weather factors—sun, wind, snow, rain—to give you an *electronically accurate fuel demand* for each customer. Saves office work, improves load handling, usually saves at least one drop per customer per year. Get literature today.

NEW DESK model for both heat and hot water

JOHNSON DEGREE DAY SYSTEM
329 S. PITCHER ST., KALAMAZOO, MICH.

JOHNSON DEGREE DAY SYSTEM 329 S. Pitcher, Kalamazoo, Mich.

Please send me "20 NEW WAYS TO PROFIT BY DEGREE DAYS" with information about your Fuel Demand Meters

Name_____

Address_____

City, State_____

LETTERS

MINNEAPOLIS-HONEYWELL
REGULATOR COMPANY
Union, N. J.

Editor:

Your March issue has a feature article in which Sparky explains rapport with service customers.

In the article Sparky lists the worst shortcomings he ever encountered, which had to be eliminated before he would consent to service oilburners on a regular basis.

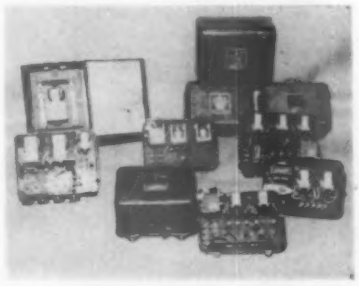
First, he says, two installations had no primary controls whatsoever. Line-voltage room thermostats simply were wired in live lines to oilburner motors, which were in parallel with ignition transformers providing constant ignition.

Every qualified serviceman should, like Sparky, refuse to be identified with installations lacking essential primary controls or other devices and controls needed for safety.

As the second most important shortcoming, he lists primary controls, actually stack controls, so old and in such poor condition that nobody could be surprised "if anything happened."

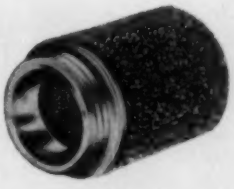
Sparky's rule, your article goes on to explain, is to replace any primary control more than 15 years old as "only a fool expects an old primary control to provide safety."

I write you because it was amusing for me to learn of Sparky's high standards in this connection—in view of the fact that since last fall I've been studying old primary controls that have been coming in here on an exchange basis. Last fall we announced we would accept from oilburner dealers, on a



BOSTON-APTHORP
OIL BURNER NOZZLES

1. Complete and perfect atomization.
2. Individually tested, BOSTON-APTHORP Nozzles deliver the correct gallonage, angle and type of spray, as marked.
3. Nozzle tip made of one-piece stainless steel, resulting in:
   (a) Uniform expansion and contraction.
   (b) Less heat conducted to the inside of nozzle than with brass, thus eliminating varnish build-up on inside vital parts.
   (c) Long life because stainless steel is tougher.



4. Fractional gallon sizes furnished standard with porous bronze filter.
5. Available in hollow and solid spray and standard angles of spray 30°, 45°, 60°, 70°, 80°, and 90°.

HOLLOW SPRAY

The hollow spray nozzle is designed for burners delivering a hollow air pattern. All of the atomized spray is delivered to the outside of the cone of spray.

SOLID SPRAY

The solid spray nozzle is designed for burners delivering a solid air pattern. The atomized oil is delivered equally throughout the entire cone of spray.

Stocked by Leading Distributors. Write for details.

BOSMACO

BOSTON MACHINE WORKS COMPANY
7-17 WILLOW STREET LYNN, MASSACHUSETTS

HEADS it's profits?

You can't run a good business on the flip of a coin—at least not in this fuel oil delivery game.

You really can't afford to gamble on the smallest decision. Too many wrong "little" decisions and your profits are gone.

If you're tossing a coin to select your fuel oil delivery nozzles, if you feel a nozzle is "just a nozzle", find out about OPW's 190 and 210 nozzles. Their many profit-keeping benefits are described in free OPW bulletins NP-190 and NP-210.

Write and ask for the two bulletins. Costs you nothing to ask; could cost you plenty if you don't. That's no gamble . . . write today.

And then, instead of flipping that coin, just slip it back in your pocket . . . as extra profits.

DOVER CORPORATION OPW DIVISION

2723 COLERAIN AVENUE • CINCINNATI 25, OHIO • Kirby 1-5400

Valves, Couplings, Specialty products for handling hazardous liquids

regular exchange-price basis, any used primary control—regardless of make, model, and condition.

We have been getting primary controls, dozens and dozens of them, which were made in the early 1930's.

As I look over our accumulation of these old primary controls, I judge that by-and-large the newest that have come in are about 20 years old.

Close inspection and examination of these old primary controls prove that they were on installations and actually were in use until recently when dealers removed them to turn them in to us.

Sparky possibly may find all this difficult to believe. Therefore, here is a photograph for him of some of these old primary controls.

We know for a fact that some oilburners still are using primary controls 25 to 30 years old. I'd like a picture showing the expression on Sparky's face when he arrives on such an installation.

Brand-new is his rule of replacing any primary control more than 15 years old. If servicemen at large embrace this new rule to improve the quality of oilheating performance, I say more power to Sparky for upping the industry's standards!

DON REILLY

New York, N. Y.

Editor:

Several of those who attended the Oil Combustion Conference at Chicago this month asked "Where is Smitty?"

Perhaps his letter in the March issue of F.O.O.H. explains his absence. Smitty says there just ain't such an animal as an oilburner better than a pressure atomizing job and that our efforts should be applied to the refining of this type.

Unfortunately, we are coming up against tough competition from other fuels and the HPB's inherent limitations will stifle oil heat unless we can come up with concepts that overcome the more formidable phases of the problem . . . namely, poor performance at low firing rates which in turn knocks out a big segment of the water heater market and kills the use of oil in the year-round heating-cooling cycle. This low rate requirement was frequently mentioned at Chicago.

Everyone I spoke to expressed confidence in our industry and was glad to see the scientific approach evidenced by the big oil companies. Some thought that it was a bit late in the day, but happily none of them shared the thinking that the pressure burner is the ideal, and the only concept worthy of study.

DAVE BOTTRILL

OIL HEAT INSTITUTE OF NORTHEASTERN INDIANA, INC.
Fort Wayne, Ind.

Editor:

Re the new "one-roof" merger of OHI and NFC, I will say that for the past 30 years that I have been associated with the oil industry, I have never spoken of heating oils as "Oil Fuels." Neither have I ever heard it spoken nor written that way.

The rearrangement of the two words seems to me to be awkward, unfamiliar and harder to say than the customary way—"fueloil."

I read many articles and much advertising and I do not recall the product ever being called "oil fuel."

Can the charter be amended before this new name is given general publicity? Or will your excellent journal now be titled, "Oil Fuel and Oil Heat?"

ROY W. FEIGLEY
Executive Secretary

Mobil appoints several district sales Managers

MOBIL OIL CO., New York, N. Y., has named M. E. Houchin, former resale sales manager, Detroit Division, resale sales manager for the company's New England division, and H. O. Smith resale sales manager, Philadelphia division. Smith previously served the company as commercial sales manager in the Twin Cities division.

Other changes include the appointment of W. B. Hopkins, former southeastern district resale manager, to succeed Smith, and the named of C. H. Ashley, recently serving as industrial district manager in Albany, to the post of commercial sales manager, New York City division.

Delivery you can set your watch by. That's one of the benefits independent home heating oil dealers like yourself enjoy when they do business with Hess. The Hess-owned truck transport fleet has built a reputation for rolling at a moment's notice. 24 hours a day... 7 days a week. Delivering regular or emergency orders. You always get every drop you pay for, because every WHITE-HEAT transport truck is metered. You always get consistently high quality because only Platinumized WHITE-HEAT ever gets inside of a Hess home heating oil transport truck. For on time delivery . . . anytime . . . switch to Hess and . . .

PLATINUMIZED WHITE-HEAT – THE BRAND TO BUILD YOUR NAME ON!

Hess, Inc. State St., Perth Amboy, N. J. • phone VAlley 6-1000

TERMINALS: PERTH AMBOY, N. J.* • WOODBRIDGE, N. J.* • EDGEWATER, N. J. • PORT READING, N. J.* • PENNSAUKEN, N. J.* • NEW HAVEN, CONN. • ALSEN, N. Y. • RENSSELAER, N. Y.* • ROCHESTER, N. Y. • SCRANTON, PA.* • BALTIMORE, MD.* • HESS FUEL OILS, INC.: JACKSONVILLE, FLA. • PORT EVERGLADES, FLA. • HESS TERMINAL CORP.: HOUSTON, TEX. • NEW ORLEANS, LA.

*WHITE-HEAT Terminals

"How can you afford a trip like this?"
"Simply because Tom installed Roper pumps on his fuel oil trucks and his profits have risen ever since"

you'll enjoy faster delivery, faster profits with ROPER PUMPS on your trucks!

Roper Series 3600 truck pumps are time savers and money makers because they are built for fast, cost-saving deliveries. Roper pumps help keep deliveries on schedule by making short work of liquid transfer. Their rugged, service-proved construction makes them highly dependable for day-in, day-out, heavy duty operation. There's a Roper in the size to fit your needs, whether pumping thick or thin clean liquids. Enjoy faster profits, get yourself a Roper!

- **TWO EQUAL SIZE** hardened iron gears run in axial hydraulic balance.
- **FOUR HIGH-LEAD** bronze bearings support gears on both sides.
- **RELIEF VALVE** is adjustable, permits nozzle shut-off without stopping pump.

ROPER
HYDRAULICS, INC.

Dependable pumps since 1857
COMMERCE, GEORGIA

Study finds Oilheating a Feature in home Sales

OIL HEAT is a featured value in the sale—and resale—of individual residences, compared to other fuels according to the National Fueloil Council. It cites a recent study showing oil the most mentioned in 8,500 offerings of one-family homes in newspapers in a group of cities along the East Coast.

In the study, analyzing classified advertising in the Sunday real estate sections of leading dailies in six major cities along the East Coast, a total of 8% of the single units offered for sale stated the house had oil heat. The ads noted gas heat in 2% of the cases. There was no significant mention of coal or electric heat.

The cities studied were Boston, New York, Baltimore, Philadelphia, Richmond, Virginia and Charlotte, North Carolina. The check of the advertising covered a total of 8,500 ads on one-family homes and ran from several hundred ads in each of the southern cities to more than 2,000 in New York and Baltimore. Coverage was both city and suburban.

The highest featuring of heating in the classified sections was in Boston, where it appeared in 18% of the ads, with about 16% stating oilheating. Second was Richmond, Virginia, where 14% of the ads mentioned heating, with more than 13% stating oil heat. In the typical home, according to the National Fueloil Council, the heating plant and system represent 5 to 10% of the total value of the house; annual heating bills, in the hard winter-half of the country, run from $250 to $400 a year, so stress on heating is a significant consumer item in selling houses.

Overall Construction up; Single-family Homes down

CONTRACTS for future construction rose 13% in January to $2,485,050,000, a new all-time high for the month, F. W. Dodge Corp. reports. The January gain in contracts marked the sixth consecutive month to show an increase over year-earlier levels, with all three major construction categories contributing to the rise.

Contracts for residential buildings in January amounted to $973,803,000,

Announcing the newest addition to the Amprobe family

NOW TEST VOLTS AMPS AND OHMS

FOR ONLY $29.85

You read right. The AMPROBE JR. *Testmaster Kit* lets you *read* voltage on a calibrated scale (not just an indication), measure amps *without* interrupting service *and* test for resistance...at half the price you'd expect to pay for a tool of similar versatility

The Kit consists of the AMPROBE JR., an ohmmeter attachment, test leads, a leather carrying case and the AMPROBE *Energizer* ("splits" double-conductor cords for direct readings at outlets, or boosts the sensitivity of the instrument 10X for readings on fractional h.p. motors).

Pick the range that best fits your job from six rugged, lightweight models: 0-25 to 0-100 amp; either 0-125/150 or 0-150/600 volts AC; 25 ohms mid-scale. For more details about this newest addition to the most-complete family of pocket-sized, snap-around test instruments in the world, see your Distributor or write for Catalog sheet AAD-1.

HODGEPODGE

TRAINING SCHOOLS are one of the big reasons it pays to standardize on Honeywell matched controls. Your service and installation men don't have to fumble through a hodgepodge of manuals to find the answers to their controls problems. They'll increase their knowledge of the Honeywell line and get the latest information on automatic controls at Honeywell training schools held in your own town or area. Over 100,000 men attend these schools every year.

And look what else you get! SIMPLIFIED INVENTORY—there's a quality Honeywell control and an All-Honeywell control system for every application. CUSTOMER RECOGNITION—seventy-six years of leadership have made Honeywell a name they know and respect. UNDIVIDED RESPONSIBILITY—you'll look to one dependable source for your complete line of controls. ON-THE-SPOT SERVICE—with offices in 112 cities, staffed by experienced sales and service engineers, you'll always have expert assistance and the right replacement controls when and where you need them.

It all adds up to bigger profits for you. So call your nearby Honeywell office today. Or write Honeywell, Dept. FH-4-90, Minneapolis 8, Minn. In Canada, write Honeywell Controls, Limited, Toronto 17, Ontario.

HONEYWELL INTERNATIONAL:
Sales and service offices in all principal cities of the world. Manufacturing in the United States, United Kingdom, Canada, Netherlands, Germany, France, Japan.

OR HONEYWELL?

V 81
Gas Valve

L 498B
Fan Limit Control

RA 816
Oil Burner Relay

L 8024
Aquastat*

THE HONEYWELL ROUND sets the standard for thermostat excellence, just as the four controls at the right are typical of the quality controls that make up All-Honeywell systems. Whatever your application—forced air, hydronics, gas or oil—there's an All-Honeywell control system that will do the job best!

Honeywell

*Trademark

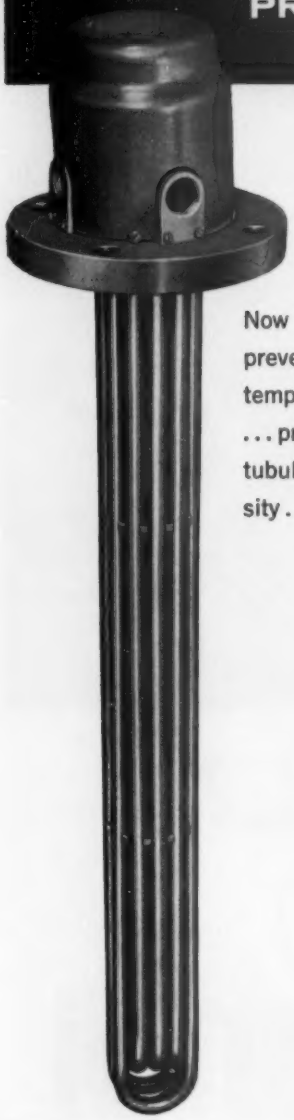
First in Control

SINCE 1885

fuel oil & oil heat

NOW!

INTERLOCK AVAILABLE ON HIGH CAPACITY FUEL OIL PREHEATERS!



GENERAL Type HMTT Automatic Electric Immersion Heaters offer unique safety feature!

Now available! Unique interlock feature prevents cold oil below preset atomization temperatures from reaching burner nozzles ... prevents faulty starts. Features rugged tubular construction ... uniform watt density ... 15 months warranty.

- Integral-mounted thermostat designed for long life ... provides for simple field adjustment within 120° — 260°F range if desired.
- Wide output range ... 5 to 36 KW.
- Broad voltage range ... choice of watt densities.
- Speedier installation, interchangeability ... 3" ASA mounting flanges rated at 150 or 300 pounds.
- For complete details, request Catalog EH-100.

Catalog EH-100 describes complete line of electric Fuel Oil Preheating Units (750 to 60,000 watts).
Request your copy today!

GENERAL FITTINGS COMPANY

EAST GREENWICH • RHODE ISLAND

an increase of 5% over January 1960, although single-family homes continued well below year-earlier levels, down 5% from a year ago.

Hupp Corporation names group vice Presidents

HUPP CORP., Cleveland, O., has realigned its organization structure along group lines to effect closer liaison between its corporate staff and its 13 operations. Two new group vice presi-

DeFino

Ward

dents have been elected: Anthony J. DeFino, general manager, Perfection Division, and Robert N. Ward, assistant to the president.

DeFino has been with Hupp since 1957, before that he had been associated with Servel, Inc. Ward has been assistant to the president since 1956.

General Controls promotes two sales Executives

TWO VETERAN officials in General Controls Co.'s Midwest sales organization have been promoted, J. F. (Jack) Ray, vice president in charge-of-sales, has announced.

B. L. Lerch climaxes 14 years with the firm by stepping up to sales manager of the Oil and Electric Heat Div., located in General Controls' Skokie, Ill., offices.

Robert C. Allen, a sales employee with the company for 21 years, moves into Lerch's former position as Midwest regional manager. He was formerly district manager in charge of General Controls' Kansas City, Omaha and Wichita branch offices. Hugh C. Cameron, formerly sales manager of the Oil Heat Controls Div., resigned to become sales manager of Esterline-Angus Co., Indianapolis.

We don't say you'll need an armed guard to take your money to bank...

But we do say that when you pick up a Sunoco Heating Oil distributorship . . .

- You won't face another Sunoco distributor "across the street". You'll have your own territory to develop and profit from.
- You'll get day-to-day support from Sun and the back-up of a liberal co-op advertising plan.
- You'll be handling a competitively priced, quality-blended product that Sun is always striving to make better.
- You can get product when you need it, from strategically placed terminals backed up by Sun's refineries and pipe line network.
- You'll have no trouble with an unknown brand name. Sunoco's already a household word that means quality . . . to millions of people in Sun's marketing area.

Want to dig into the Sunoco franchise deal? Write to A. L. Anderson, Fuel Oil Department, Sun Oil Company, Philadelphia 3, Pa. He'll treat your letter confidentially and mark his reply "personal". In Canada: Write to C. B. Pitt, Sun Oil Company Limited, 85 Bloor St. E., Toronto.

SUNOCO

PIONEERING PETROLEUM PROGRESS FOR 75 YEARS

'61 FORD SUPER DUTY TRUCKS

BROADER WARRANTIES... GREATER DURABILITY... BIGGER CHOICE!

FORD DIVISION, *Ford Motor Company*

- **New Super Duty V-8 Dealer Warranty—100,000 miles or 24 months!**
- **New extended Dealer Warranty for entire truck line—12 months or 12,000 miles!**
- **New stronger frames and huskier cabs for Conventional Cab models!**
- **Now 222 money-saving Tilts, Tandems and Conventionals with Super Duty V-8's to choose from!**

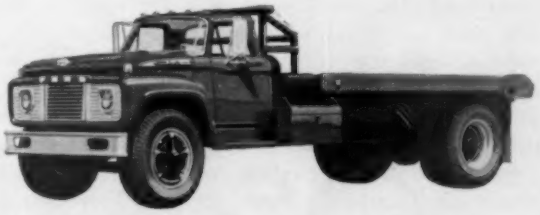
Ford's rigid quality control program gives you unsurpassed dependability! Positive evidence of uniformly high production and inspection standards is the exclusive new 100,000-mile engine warranty. On 401-, 477- and 534-cu. in. Super Duty V-8 engines, each major engine part (including block, heads, crankshaft, valves, pistons, rings), when engine is used in normal service, is warranted by your dealer against defects in material or workmanship for 100,000 miles or 24 months, whichever comes first. Warranty covers the full cost of replacement parts . . . full labor costs for the first year or 50,000 miles, sliding percentage scale thereafter.

In addition, an extended warranty covers all 1961 Ford Trucks of any size. Each part, except tires and tubes, is now warranted by your dealer against defects in material or workmanship for 12 months or 12,000 miles, whichever comes first. The warranty does not apply, of course, to normal maintenance service or to the replacement as normal maintenance of such items as filters, spark plugs and ignition points. No other truck gives you such protection for your investment; never before could you be so confident of long-range durability!

Tandem Axle models are available with tilt cabs. As with conventional tandems, aluminum walking beams, wheels, fuel tanks are offered to cut weight.

Most popular Tilt Cabs on the American road! 1961 models represent five years of improvements. Four series—up to 36,000-lb. GVW, 65,000-lb. GCW.

New tougher tandems offer greater strength in chassis, cab and sheet metal . . . new wide-track front end stability. Powered by rugged Super Duty V-8's, Ford tandems go up to 51,000-lb. GVW, 75,000-lb. GCW.



New huskier conventional trucks feature lighter, stronger frames of high-tensile steel . . . heavier gauge metal and stress-isolating independent mounting for radiator, fenders and cab.

QUALITY-BUILT... MAINTENANCE-ENGINEERED

FORD TRUCKS COST LESS

Interesting Exchange of Views on Virtues of Oil vs. Gas Heat

THIS IS A CURIOUS RECITAL. A gas utility executive called on the advertising agency for one of the cooperative campaigns in the Midwest, sponsored by the National Fueloil Council. He criticized the agency for what he considered unfair or untrue aspersions toward gas as a heating fuel. He brought written statements, which in turn were forwarded to the Editor to answer. To get expert advice they were in turn passed to John Schulz, technical editor, who gave us his views on each point. The gas company's claims and Schulz' answers follow:

(First let it be noted that we do not believe that anti-gas advertising by the oilheating industry is wise for two reasons; first, the public is not favorably impressed and, second, the major oil companies won't allow their money to be used for any negative or contentious copy. At the same time, we need to know the facts for personal rebuttal if the points are raised.)

Gas Claim . . . Natural gas is neither noxious nor toxic and is neither harmful to plants nor pets. As a matter of fact, plants live better with a little natural gas.

Answer . . . It's not that natural gas in the room air is harmful to plants or pets. True, natural gas in room air is not toxic, but just put enough of it in room air and touch it off and all you do is blow up the place; you don't poison plants and pets before that.

But the products of combustion of natural gas often find their way into room air. Evidence of that comes in the high humidity of some gas heated homes. Now these products of combustion can include traces of carbon monoxide (actually do in all too many instances in which combustion is not complete) and it is this monoxide that is toxic to plants, pets and people.

Gas Claim . . . An atmosphere with 25% natural gas is not explosive. There isn't enough oxygen to cause an explosion . . . but a person could live for quite some time in such an atmosphere without any harmful effects.

Answer . . . Certainly! That's just been covered. Having 25% natural gas in room air permits a person to live and breathe just as miserably as though 25% gasoline vapor were in the room.

Gas Claim . . . There have been a number of oil explosions throughout the country, some even rocking the houses off their foundations. You aren't right when you say that oil is safe because it can explode and it causes many fires.

Answer . . . Now, now . . . oil is relatively safe. I go out on many oil "explosions" so called. In 30 years of seeing a lot of them I have never seen one "rocking the house off its foundation." When a phone call comes in about an explosion, if oil is involved I ask if any basement windows were blown out. When gas is involved, I ask how many people are dead, and if anything is left standing of the house.

This boils down to: An oil leak is not bad; you put a pan where it will catch the leaking oil, and leisurely call a service man. For a gas leak in the basement of a home, you get everybody out of the house as fast as you can. Gas that cannot be smelled is a vast hazard; it gives no warning. The school house that blew up in Texas some years ago, without the occupants having smelled any gas at all, is an example.

Certainly in the school rooms above the basement, gas was present in important amounts but there was no warning to indicate that the school soon would be blown to bits.

Gas Claim . . . The chemical content of natural gas is entirely different here in our city than it is in the East. Their gas may be toxic but not ours. Various things are added at the time the gas comes into the city mains which make it different in each community.

Answer . . . The chemical content of all natural gas is much alike, in that such gas is made up of only two elements, hydrogen and carbon. No, this sentence is wrong, "Their gas may be toxic, but not ours." The statement

GLASS ARMOR FRANCHISED APPLICATORS

Anchor Tank Lining Co.
Box 1,
Port Everglades Station
Fort Lauderdale, Fla.

Chicago Tank Lining Co.
5247 West Quincy St.
Chicago, Illinois

Complete Heating & Cooling
347 S. Pearl Street
Albany, New York

Durable Industries
637 Andrea Road
Runnemede, New Jersey

Du Raye Industries
245 Broadway
Paterson, New Jersey

Charleston Oil Co.
Box 145
Charleston, S. C.

Dealer's Tank Service
816 "A" St.
Tacoma, Washington

Harford Burner Service
7003 Old Harford Rd.
Baltimore, Maryland

Michigan Tank Lining
5103 E. Atherton Rd.
Flint, Michigan

Madsen Service
3549 Nicollet Avenue
Minneapolis, Minnesota

National Tank Sales & Service
713 S. 10th St.
Milwaukee, Wisconsin

Northwest Tank Lining Co.
1501 15th Avenue
Seattle, Washington

Northeast Tank Lining Co.
558 Shore Rd.
Cape Elizabeth, Maine

New England Tank Lining Co.
557 S. Fulton Ave.
Mt. Vernon, New York

Tank Bottoms, Inc.
416 Senator St.
Brooklyn, New York

New England Tank Lining Co.
708 Madison Avenue
Bridgeport, Conn.

Olson Deane Tank Lining
9307 Olive Street Road
St. Louis, Missouri

Petroleum Maintenance
2040 Southeast 14th St.
Des Moines, Iowa

Roberts & Knapp
210 East Boone Ave.
Spokane, Washington

Western Service
N. 217 Division St.
Spokane, Washington

Sullivan Sales & Service
119 N. 46th Ave. West
Duluth, Minnesota

Suburban Tank Co.
525 Trapelo Road
Belmont, Mass.

Siler Industries
165 Norfolk St.
Dorchester, Mass.

Orion Sickler Co.
102 Grant Avenue
Takoma Park, Md.

Vollers Heating & Air Conditioning
2331 Boulevard,
Box 3442
Jacksonville, Florida

Tank Liners, Inc.
2191 N. W. Savier St.
Portland, Oregon

Guy L. Hendrix Furnace Service
1515 Hillcrest
Corvallis, Oregon

Western Oil & Burner Co.
1845 S. 6th St.
Klamath Falls, Oregon

Northwest Tank Liners
Box 409
Rainier, Oregon

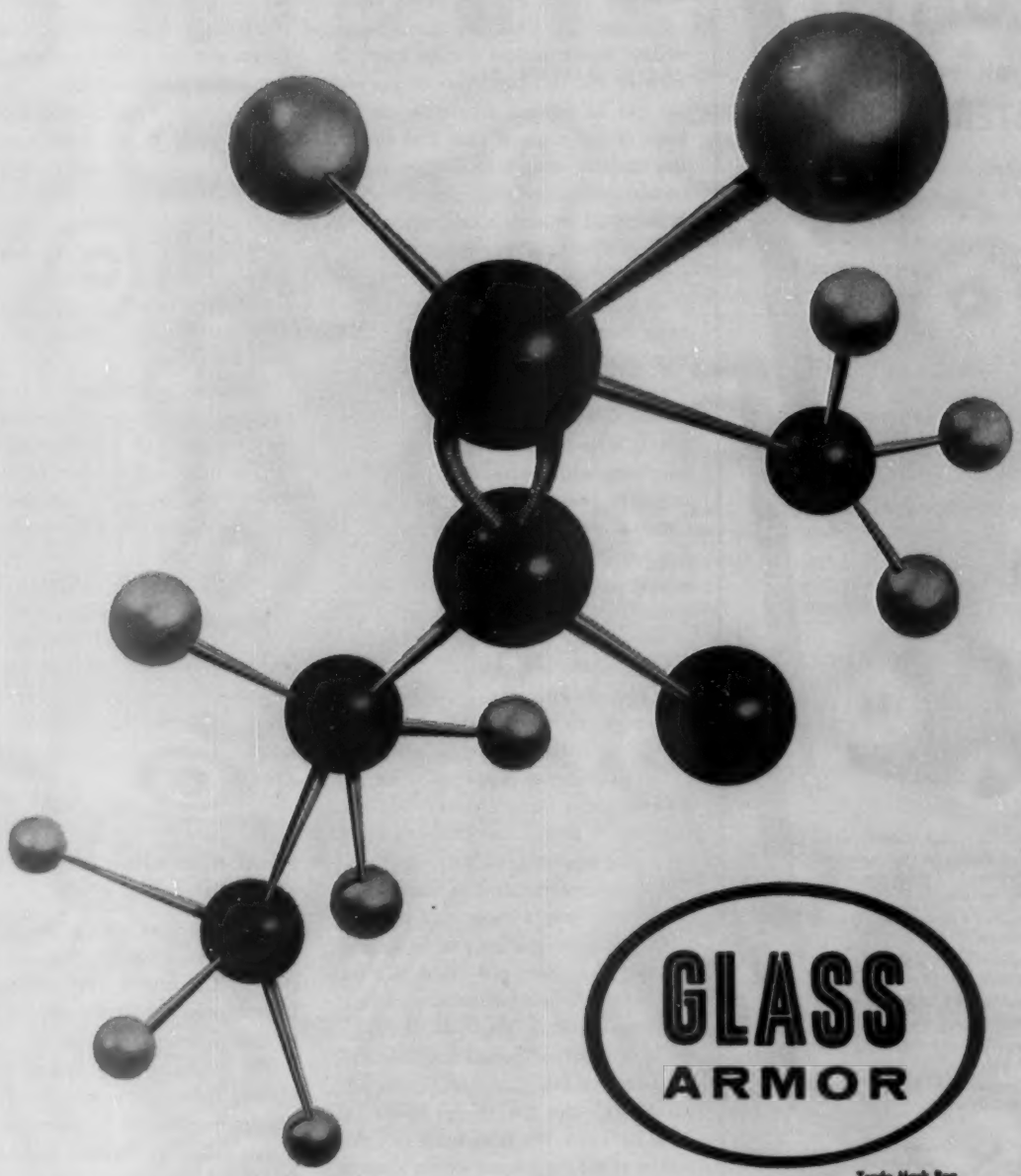
Northern Fuels
192 College St.
Burlington, Vermont

Preventive Maintenance Service
3915 Wamsley Blvd.
Richmond, Va.

Permanent

TANK REPAIR

From 275 to 5,000,000 gallon tanks



GLASS
ARMOR

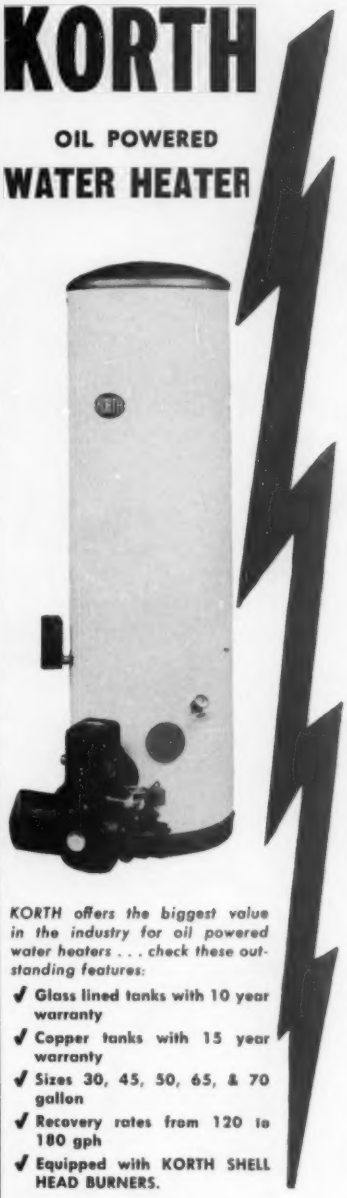
Trade Mark Reg.

BRIDGEPORT CHEMICAL CORPORATION, 75 EAST 2nd STREET, MINEOLA, N. Y.

BIGGEST VALUE IN THE INDUSTRY

KORTH

OIL POWERED WATER HEATER



KORTH offers the biggest value in the industry for oil powered water heaters . . . check these outstanding features:

- ✓ Glass lined tanks with 10 year warranty
- ✓ Copper tanks with 15 year warranty
- ✓ Sizes 30, 45, 50, 65, & 70 gallon
- ✓ Recovery rates from 120 to 180 gph
- ✓ Equipped with KORTH SHELL HEAD BURNERS.

SILENT KORTH OIL HEAT

High volume water supply generators also available from 300 to 3000 gph.

WRITE TODAY FOR COMPLETE INFORMATION ON THE QUALITY LINE OF KORTH EQUIPMENT.

ECKHART MFG. CO., INC.
UNION, NEW JERSEY

about various things being added at the time gas goes into the city mains —that statement is too general to be true, or to mean anything. To make sense, such a statement calls for mentioning the various things added to the gas, and the reasons for adding.

Gas Claim . . . The cost of gas is much less than that of oil . . . but there are ways of figuring costs which could show the prices as being about equal.

Answer . . . This is a glaring generality, which should not be made in view of the fact that costs of gas and oil can be figured accurately on the basis of the price of each fuel and its Btu content. In some localities, a homeowner gets more Btu per dollar by burning oil, in other localities by burning gas. Gas rates may be complicated, but for a given home you can figure it on a monthly basis. Usually a dollar buys more Btu of gas in the colder months than it will in mild months because of the steps in pricing.

Gas Claim . . . I'd like to find the person who could guarantee you 90% efficiency with an oilfired furnace. It might be possible to set it for this efficiency but it can't operate at this point for any period of time or with any regularity. It will vary all over the place.

Answer . . . Few oilfired furnaces operate at efficiencies as high as 90%, true enough. Furnaces can be made for such high efficiency, but the Btu in oil cost so little that designing a furnace for 90% efficiency is not economic. As an example, a furnace costing $300 at the factory might use $200 worth of oil a year, operating at 80% efficiency. Spending another $100 on the furnace might save only $8 worth of oil.

Certainly the efficiency of an oilfired heating plant does not "vary all over the place." Testing hundreds of new oil furnaces in a particular development of identical homes and identical furnaces, we find that with proper adjustments, that are always made by good installers, the efficiencies of nine-tenths of the units were within a range of 3%; on the other tenth of the homes the variation was as high as 7%.

Gas Claim . . . A gas furnace is much less likely to give off gases such as carbon monoxide because two things have to be wrong before this happens. With oil, only one thing has to be out of adjustment for carbon monoxide to come from the furnace.

Answer . . . Gas furnaces easily give off carbon monoxide, and don't give off chimney smoke to warn of this. They do this either if too much gas goes to the flame, or if too little air. They do this if an improper flame shape or build-up of carbon in the combustion space causes flame impingement on a cold surface. To test for carbon monoxide from a gas flame is common and recommended practice. Well equipped gas heat servicemen regularly travel with carbon monoxide testers made especially for gas heat work and widely used.

But oil heat servicemen never use carbon monoxide testers. Manufacturers of such testers do not even offer them to oil heat servicemen, simply can't sell them.

Standards and ordinances related to gas heat regularly cover carbon-monoxide testing and set limits for maximum carbon monoxide in the products of combustion. Standards and ordinances for oil heat never do this, not in a single instance.

The reason for this is simple. Before an oil flame can possibly give off the slightest amount of carbon monoxide, it gives off vast and intolerable amounts of smoke and choking, oily fumes. There has never been a recorded instance of death by carbon monoxide from an oil flame.

Motorola announces regional Changes

MOTOROLA Communications & Electronics, Inc., Chicago, has announced the appointment of four new regional sales managers and the establishment of three new urban offices.

The regional sales managers are: Chester L. Pringle, who moves to Denver from a similar position in West Texas; Glenn A. Froberg in Indianapolis; Ira Walker in Memphis and Paul E. Russum in Motorola's Southern Area headquarters in Dallas.

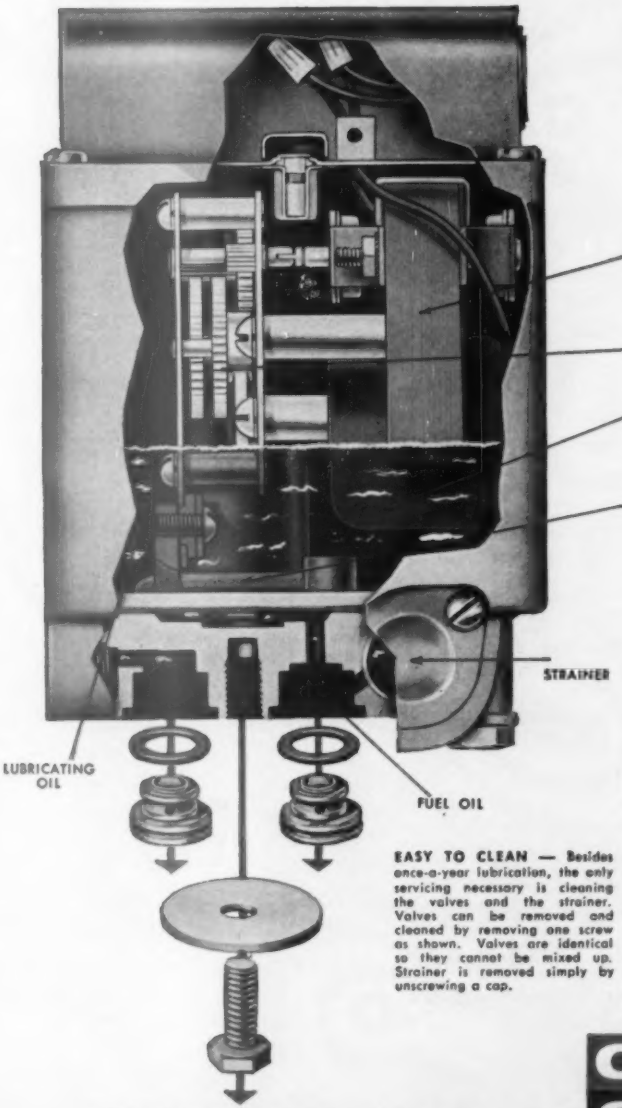
Denver, Indianapolis and Memphis are new home cities in the Motorola sales organization.

NEW LONGER, TROUBLE-FREE OPERATION
NEW EASE OF CLEANING AND MAINTENANCE
NEW SMALLER, MORE CONVENIENT SIZE

NEW OILIFTER®

OIL PUMP FOR OIL BURNING EQUIPMENT

MODEL NO. 2521



This completely new CC Oilifter combines outstanding new performance features with a new low price. Ideal for both vaporizing and rotary type oil burners; conversion oil burners; space heaters; ranges and water heaters. Contact your wholesaler or write c/o the address below.

check these NEW features

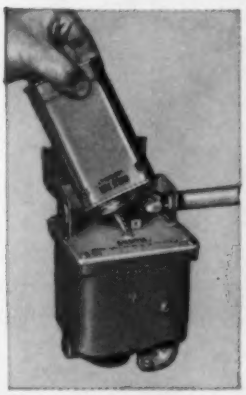
EXTRA QUIET electric motor operates continuously. 22-watt rating. No arcing, so absolutely no radio or TV interference. Capacity: ⅞ gal. per hour at 20 ft. lift.

NYLON GEARS AND OVER-TRAVEL MECHANISM give long life, smooth operation.

SELF-LUBRICATING — All moving parts — except the 2 valves — operate in a special lubricating oil which never has to be changed and must be checked only once a year.

LONG-LASTING DIAPHRAGM is made of Buna "N" — a nylon base fabric with Buna "N" impregnation — assures many seasons of trouble-free operation.

EASY TO CLEAN — Besides once-a-year lubrication, the only servicing necessary is cleaning the valves and the strainer. Valves can be removed and cleaned by removing one screw as shown. Valves are identical so they cannot be mixed up. Strainer is removed simply by unscrewing a cap.



ONCE-A-YEAR SERVICING can easily be done by the owner himself. Lubricating oil comes in a special CC spout-can. To fill, simply unscrew cap at top and fill to the level of the plug hole on front.

Creative controls for industry

CONTROLS COMPANY OF AMERICA

HEATING AND AIR CONDITIONING DIVISION

2458 N. 32nd Street, Milwaukee 10, Wisconsin • Cooksville, Ontario • Zug, Switzerland

ONLY

HI-RECOVERY
QUIET AUTOMATIC
OIL FIRED WATER HEATER

HAS A
Complete line of
HI-RECOVERY
OIL FIRED HOT WATER HEATERS

Glass Lined
3 Sizes
30 gallon with 120 gallon hour recovery
50 gallon with 150 gallon hour recovery
70 gallon with 200 gallon hour recovery

Copper Lined
3 Sizes
30 gallon with 120 gallon hour recovery
45 gallon with 180 gallon hour recovery
65 gallon with 215 gallon hour recovery

Hi-Test Galvanized
3 Sizes
30 gallon—35 gallon—and and 44 gallon for Motels, Apts., State and Government Jobs.

Twin Coil Jobs
up to 5,000 gallons for Launderettes and Big Buildings A.S.M.E. labeled and constructed. Made in 30, 45, 120, 215 and up to 5,000 gallons per hour sizes — Arkay-Kewanee.

Coast to Coast Distribution

A PRODUCT OF
QUIET AUTOMATIC BURNER CORP.
33-35 Bloomfield Avenue
Newark 4, N. J.

'61 Advertising Plans set by Penn. Council

THE PENNSYLVANIA Oil Heat Council, Glenside, Pa., will restrict its use of billboards and step up radio coverage in its 1961 cooperative advertising program for oil heat.

The Council plans to use FM radio for 29 weeks and will also rely heavily upon newspaper insertions.

Connecticut Association plans May Convention

THE CONNECTICUT Petroleum Association, Hartford, Conn., will hold its 11th Annual Convention and Trade Show May 25, 1961, at the Statler Hilton in Hartford.

The day-long affair will feature trade show exhibits, oil education seminars, and both a luncheon and gala evening banquet in the hotel's Capitol Ballroom.

For space information, write Lee Isenberg, Executive Secretary, Connecticut Petroleum Association, 179 Allyn St., Hartford 3.

Warm Air Group publishes Business Management Text

DEALER-CONTRACTOR members of the National Warm Air Heating and Air Conditioning Association, Cleveland, Ohio, have received a 124 page Management Reference Guide recently published by that association. The bulletin covers profit-building techniques of successful colleagues throughout the nation.

Facts and procedures obtained from dealers, manufacturers, wholesalers and publishers were distilled into eight major sections. These are: Functions of the Business, Duties of Management; Transactions; Records and Accounting; Estimating and Pricing for Profit; Operating Methods and Controls; Producing Sales and Income, Marketing Management; The Forces that Make Sales; and Sales Management.

Periodic revisions and additions will be provided to meet the changing needs of members and to present new material and ideas as these become available.

Distribution Division adds new OHI chapter

THE NEBRASKA PETROLEUM Marketers, Inc., Lincoln, Neb., has applied for chapter membership in Oil Heat Institute of America, New York, New York.

When formally approved, the new chapter will be the tenth state jobber association to join OHI, and will be the Division's 71st chapter.

Correct oil truck Usage explored by Jersey Group

THE FUELOIL DEPARTMENT of the New Jersey Klinker Klub held a meeting March 2, at Cedar Grove, N. J.

George Fangmann, Jr. acted as moderator of a discussion on the topic "Are You Using the Right fueloil Trucks for your Business?"

Fitzgerald heads Wisconsin Group

AT THE ANNUAL MEETING of the Wisconsin Petroleum Association, James F. Fitzgerald, F-W Oil Co., Janesville, Wis., was named president. E. G. Wingfield, Wingfield Oil Co., Manitowoc, was elected vice-president; C. D. Jacobus, Gross-Calloway-Fellenz Fuel Co., Milwaukee, became second vice-president and D. W. Gluck, International Oil Co., Milwaukee, secretary-treasurer. Ken C. King continues as executive secretary.

Fay is now Secretary for three fuel Groups

CLARENCE H. FAY has been named executive secretary of the Independent Oil Men's Association, Boston, the third fuel group which he directs. Fay also is secretary-treasurer of the Oil Heat Institute of New England and executive secretary of the New England Fuel Dealers' Association.

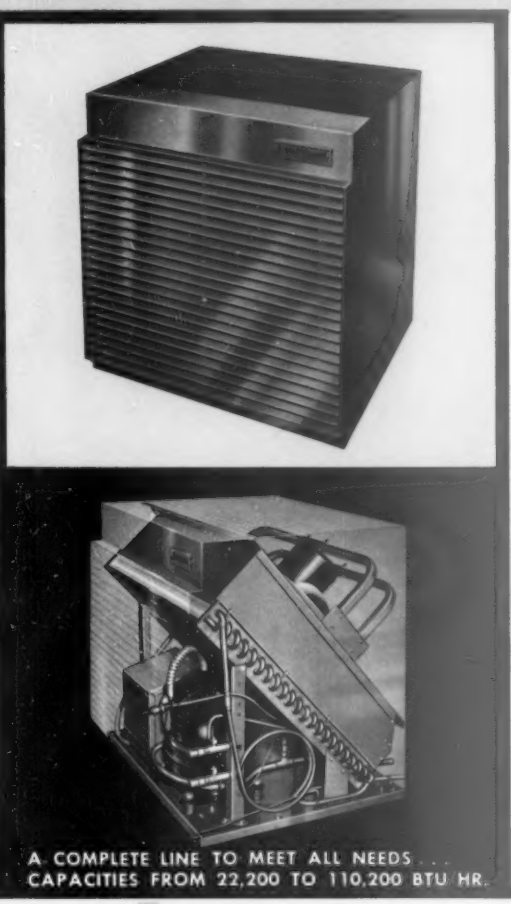
His appointment to this latest job

the quality
tells . . .
the quality
sells . . .
JANITROL
AIR-COOLED
AIR-CONDITIONING
Hallmark of Quality
in Luxury Comfort

UNCHALLENGED COOLING PERFORMANCE...

in all-new JANITROL

52 SERIES CONDENSING UNITS



A COMPLETE LINE TO MEET ALL NEEDS . . .
CAPACITIES FROM 22,200 TO 110,200 BTU HR.

Outwardly beautiful and pleasing to the eye, inwardly rugged and powerful, new Janitrol 52 Series provides low-cost central cooling with matchless reliability and efficiency. Here are some of the many ways new Janitrol 52 Series condensing units are demonstrating their excellence . . .

In Performance . . . condensing coils have greater area to dissipate more heat and to provide higher efficiency. Operati- with outside temperatures as high as 125°F.

In Styling . . . modern, simple and functional ca..net that will be in the best of taste in any landscape plan. Finished in beau iful, durable, weather-resistant, automotive-type enamel.

In Economy . . . powerful, top-mounted fan draws in quantities of cooler ground air over the condensing coil, which is shaded from the sun's heat by louvers.

In Quietness . . . compressor and fan are unusually quiet in operation. Cabinet is acoustically treated with a weatherproof, sound-absorbent material.

In Safety . . . upflow exhaust protects nearby plants from hot blasts . . . enclosing grilles safeguard pets and children.

In Service . . . all components are easily accessible. Service panels may be removed without affecting operation, to make checks while unit is in full operation.

A.R.I. CERTIFIED

Full A.R.I. certification is your assurance this equipment meets or exceeds standards of the Air Conditioning and Refrigeration Institute. A five-year written warranty backs up your choice.

JANITROL AIR-COOLED SUMMER AND YEAR 'ROUND COMFORT SYSTEMS TO MEET ALL NEEDS

Janitrol Win-Sum-Matic Year 'Round Systems

A complete central heating and cooling unit in a compact, smartly-styled cabinet smaller than most home refrigerators! Features air-cooled summer cooling, thrifty gas heat with Dura-Tube heating heart, guaranteed for 20 years! Exclusive "Season Selector" control allows changing from heat to cool (or vice versa) in seconds. No special tools or service call needed.

Janitrol Add-On Cooling System

With Janitrol Add-On Cooling, most any forced air furnace can be easily adapted to circulate cool, filtered air to every room in the home. The Janitrol evaporator coil is installed in furnace outlet duct and connected to the properly-sized 52 Series condensing unit. The existing furnace blower and duct system circulates the cooled, dehumidified air. Here's full central air conditioning at low, low cost!

New Janitrol J-Line Self-Contained Air Conditioners

The Janitrol J-Line models are an economical answer to cooling needs. In one compact unit are the blower, compressor and evaporator coils. Operation is remarkably quiet. May be used with ducts or as free discharge. Installs through walls in crawl space, in attic or other limited access locations.

Janitrol Schoolroom Cooling and Heating

Janitrol offers a self-contained room heating and ventilating system (with optional cooling) that features perimeter-type, draftless air distribution. Installation economies are noteworthy (savings up to 60% over large central systems). For new schools, additions and modernization.

WRITE TODAY!

for complete information on Janitrol heating and cooling systems for your business needs. Remember—architects and engineers can specify . . . and dealers can recommend and install *Janitrol* equipment with complete confidence it will provide the finest, most carefree performance possible.

JANITROL MIDLAND-ROSS

HEATING AND AIR CONDITIONING

A Division of Midland-Ross Corporation

Columbus 16, Ohio • In Canada: Moffats Ltd., Toronto 15

is another step in the process of integrating New England oil trade associations. The combined operation for the three groups has headquarters at 330 Stuart St., Boston.

Another announcement revealed the appointment of Frank H. Leslie as assistant executive secretary of the combined operations of the three associations. He formerly was New England sales manager for Lehigh-Navigation-Dodson Co.

Annual Convention held by Wisconsin Association

SPEAKERS at the March 1 and 2 meeting of the Wisconsin Petroleum Association in Milwaukee included C. J. Guzzo, senior vice president, Gulf Oil Corp., who spoke about the new challenges for the petroleum marketer.

Addressing the group on these topics were: Ray Nathan, Bedford Oil & Air Conditioning Co., Inc., "A Formula for selling against natural gas Competition"; Calvin D. MacCracken, Jet-Heet, Inc., "The Future of Oilheating: High Velocity vs. Low factory Cost."

Speaking on general petroleum marketing aspects were E. K. Bennett, National Oil Jobbers Council; and L. T. White, Cities Service Petroleum, Inc.

North Carolina Jobbers plan spring Convention

THE FUELOIL portion of the North Carolina Oil Jobbers Association's annual convention will be held Saturday morning, May 7.

The meeting which features a trade exhibit at the Carolina Hotel, Pinehurst, N. C., will begin May 4.

Fluid Controls Institute to hold annual Meeting

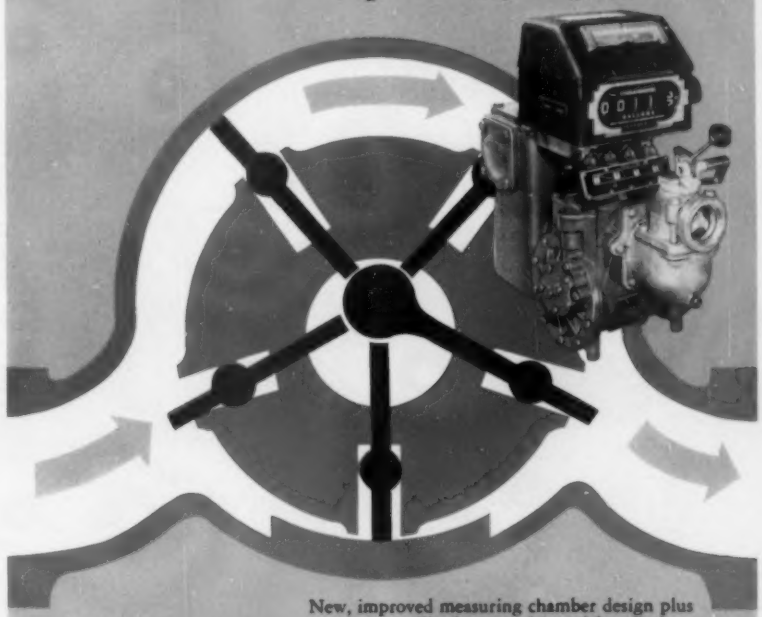
THE ANNUAL MEETING of the Fluid Controls Institute, Inc., Pompano Beach, Fla., will take place May 21 to 23 at The Cloister, Sea Island, Ga.

The general theme will be "Marketing Feed-back." Among the speakers will be David S. Gibson, Worthington Corp. and P. F. Pritchard, *Product Engineering.*

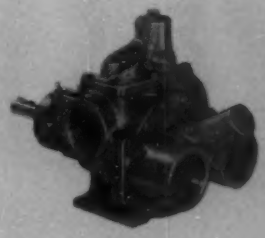
GRANCO

Truck Meters

positive accuracy
low maintenance cost
unequalled life expectancy



New, improved measuring chamber design plus greater versatility in mounting and installation capabilities make GRANCO truck meters the outstanding answer to fast flow operations for today's progressive fuel-oil industry.
Positive displacement rotary principle, free from pulsation and reciprocating parts, provides smooth non-pulsating flow. Low pressure drop eliminates friction, minimizes wear, saves maintenance costs. Self purging meter chamber and dual-centered 5 blade action, perfectly balanced on a center shaft, assures uniform accuracy, trouble free performance.
Sizes: 1¼" to 4" for flows of 40 GPM to 500 GPM.



GRANCO **TRUCK PUMPS**
Rotary Type, Positive Displacement
Here is the outstanding line that provides *low initial cost, low operating cost,* and *low maintenance* with *high volumetric efficiency* that enables a smaller Granco pump to do the job of a much larger ordinary one.
Get all the facts on Granco Truck Meters and Pumps —write to

Sales representatives throughout the nation.

GRANCO
GRANBERG CORPORATION
1508 SIXTY-SEVENTH STREET, OAKLAND 8, CALIFORNIA
SUBSIDIARY OF AMERICAN METER COMPANY, INC.

NOW...

THE NEW, IMPROVED VECO ELECTRONIC COMBUSTION ANALYZER

CHECKS ALL THREE ON ONE METER ...IN SECONDS

- ✔ CO_2 CONTENT OF FLUE GAS
- ✔ STACK TEMPERATURE
- ✔ DRAFT OVER FIRE

New engineering improvements make VECO portable combustion analyzer better than ever — faster, more accurate, easier to use! A precision instrument designed for installation and service men to obtain maximum heating efficiency on any type of oil, gas or coal furnace.

- ✔ Direct reading time is less than 10 seconds
- ✔ All 3 functions on 1 instrument
- ✔ One meter, one dial with 3-scale readout

The VECO Combustion Analyzer allows more service calls per day without mistake and elimates needless repeat calls.

FREE!
Write for folder V588 with complete details on all models of the new, improved VECO combustion analyzer.

VECO VICTORY ENGINEERING CORPORATION

124 Springfield Road, Union, N. J.
MUrdock 8-7150

Program announced for Pacific Regional Meeting

THE OIL HEAT INSTITUTE of Oregon is host for the 18th annual regional convention of the Pacific Northwest OHI Chapters, May 11 and 12, to be held in Portland at the Lanai Sheraton Hotel.

Program for the two-day gathering has been announced, with these business sessions scheduled:

May 11

9:30 A.M.—Welcome by Master of Ceremonies Mose Vining
Welcome by Mayor Terry D. Schrunk
10:00 A.M.—Speakers:
Arthur Cannon, Economic Future of the Northwest;
W. B. Dubin, Oil Industry's Future;
Gerry Frank, Merchandising Basics in Retail;
H. B. Douglas, Merchandising Principles in oil Retailing.
12:00 Noon—Luncheon, Bill Simon, master of ceremonies.
1:45 P.M.—Speakers:
Calvin MacCracken;
J. L. Minner.
3:00 P.M.—Trade fair.

May 12

9:45 A.M.—Introduction of speakers, Bob Inman, m.c.
Speakers:
Robert Gray, An eastern Editor looks at the West;
Frank Breese, Fueloil in the total Picture;
Charles Burkhardt, The national Picture;
T. R. Loizeaux, Future Promotion.
1:00 P.M.—Luncheon.
1:45 P.M.—Speakers:
Jim Lane;
Dean Burks;
Roy Lindsay;
Loren Pierce.
Close by OHI of Oregon President, Bob Inman.

Connecticut Councils hold officer Elections

THE BETTER Home Heat Council of New Haven has re-elected for a second term George McQueeney, Terminal Oil Co., West Haven, Conn., as its president. William Goodrich, Goodrich Oil Burner Mfg. Co., New Haven, is vice-president. E. Leroy Emanuelson was re-elected executive secretary and treasurer.

Francis Cronin, Home Coal & Oil Co., New Haven, was elected representative to the National Fueloil Council and the Connecticut Fueloil Council. The New Haven Council has 25 members and is active in civic and promotional activities.

The Better Home Heat Council of Southwestern Connecticut has elected John E. Herbert, Herbert Fuel Co., Darien, president; M. Muchinsky, Home Oil Co., New Canaan, vice-president; Richard Gruber, Independent Oil Co., treasurer. Leroy Emanuelson is executive secretary.

The Greater Danbury (Conn.) Better Home Heat Council selected Paul Werner, Hoffman Fuel Co., Danbury, as its president; James Dolan, B. J. Dolan, Inc., was named vice-president and William Silvernail, Ford Coal Co., continues as secretary-treasurer. Joseph Buzaid was elected National Fuel Council and Connecticut Fueloil Council representative.

Program ready for New Jersey Convention

PROGRAM for the annual convention, Fuel Merchants Association of New Jersey, has been completed, with sessions set for April 19, 20 and 21 at the Haddon Hall Hotel, Atlantic City, N. J. This is the first Spring convention for the group and will be its only meeting this year.

A draft of the convention program includes these activities:

April 19

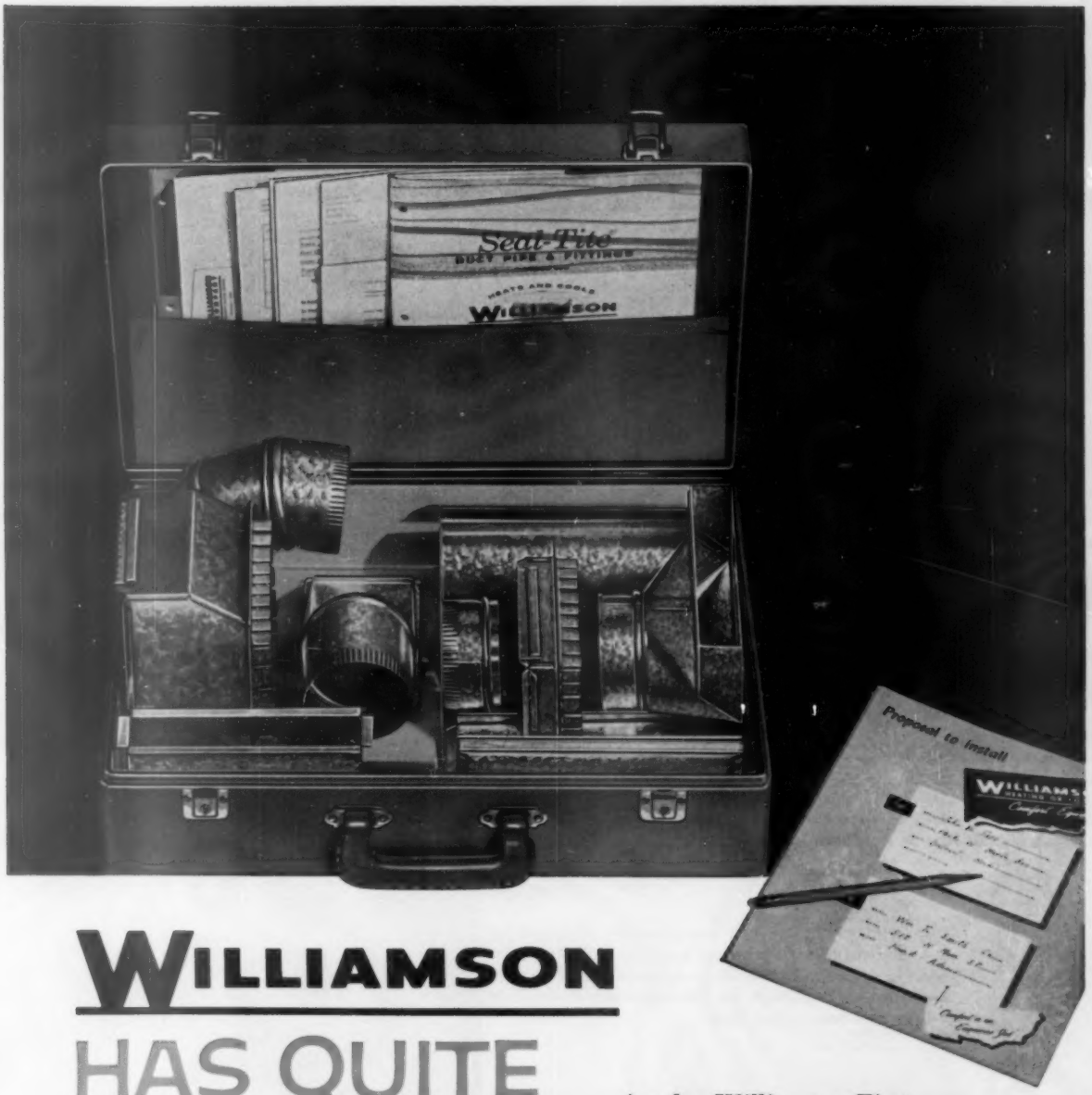
3:00 P.M.—First business program
Association business meeting
Round table: Uncle Sam, your business Partner.
(A clinical discussion of tax matters affecting the fuel business and an open forum on the cost of doing business.)

April 20

10:00 A.M.—Second business session
The Future of Oilheating, Calvin D. MacCracken, Jet-Heat, Inc.
Do we stand still or move ahead?, Walter E. Blake, Stewart-Warner Corp.
Why a local Association?, William G. Dixon, Dixon Bros.
2:00 P.M.—Third business session
The Levittown, N. J. Story, William C. Henwood, Meenan Oil Co.
Oil Heat Council Program, Irving Oelbaum, Liberty Fuel Oil Co.
West Coast fueloil Promotion, Al Loucks, Home Fuel Oil Co.

April 21

10:00 A.M.—Fourth business session
How Problems are solved in a dual fuel Operation.
(Panel discussion on winter delivery methods for solid and liquid fuel.)
Keynote to future success, Robert Whitney, Marketing Audits Institute
1:00 P.M.—Annual association luncheon
7:30 P.M.—Annual banquet and dinner dance.



WILLIAMSON HAS QUITE A CASE!

THE WILLIAMSON COMPANY
3312 V 18 Madison Road, Cincinnati 9, Ohio

That is quite a case! I'm interested.
Send information to me . . .

Name_____

Address_____

City_____ Zone_____ State_____

COPYRIGHT 1960, THE WILLIAMSON CO.

Another Williamson First

Actual *miniature* Seal-Tite® fittings — perfectly hand crafted . . . a remarkable new approach to clinch your heating or cooling sales at a greater profit!

Now you can take fittings into the home and demonstrate why your exclusive Seal-Tite air distribution system will do a far better job in providing home comfort. Here's just another exclusive reason for being a Williamson Dealer!

Send coupon for information or contact your local supplier

fuel oil & oilheat

TWO ON THE ROAD, FIVE TO GO—Macks of Berkshire Ice & Fuel Company are constantly on the go servicing customers without fail. So dependable has Berkshire found its Macks, even in severe winter weather, that fleet now numbers seven.

BUSY TIME OF YEAR—When the leaves are down and the weather turns cold, homeowners want to top off their tanks, creating a demand on Berkshire's equipment. Thanks to its predominantly Mack fleet, the company meets all demands —even when snow is hub deep.

"Sorry" can't heat a home!

Dependable Macks keep customers happy

An unscheduled shop visit for mechanical failure is one sure way a truck can lose customers for you. Dependability in fuel oil delivery is the biggest single factor in truck selection.

Because it has witnessed Mack truck dependability since solid tire days, Berkshire Ice & Fuel Company of New Haven, Conn., is a steady Mack booster.

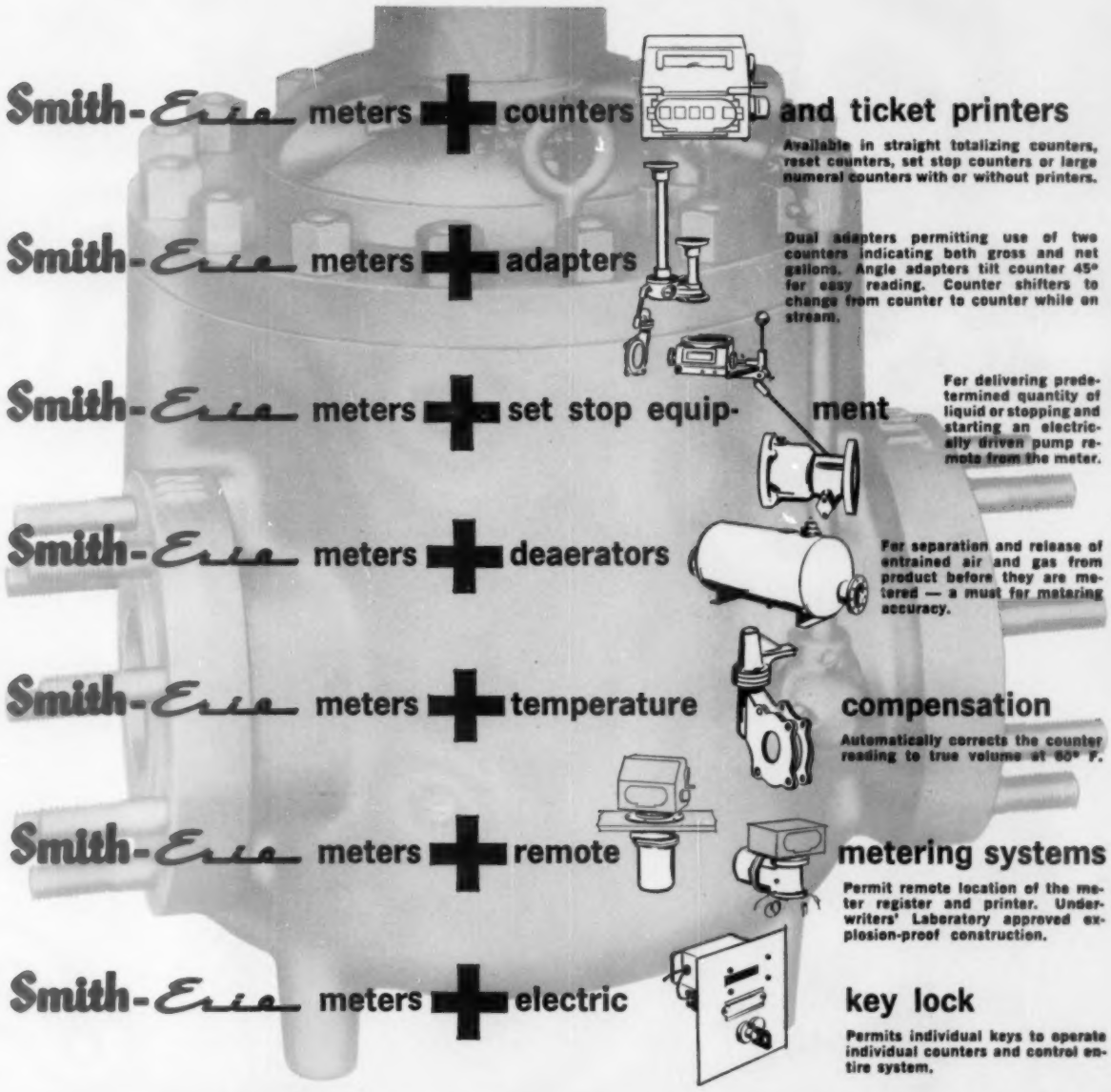
Berkshire just recently took delivery of two new Mack B-42P Models, bringing to seven the number of Macks it relies on for dependable fuel oil delivery throughout the severe New England winters.

If dependability is an important factor in your fleet's operation, it will pay you to see your Mack branch or distributor. He can suggest the exact Mack for you to do your job with utmost dependability . . . and with unequaled economy, too. Mack Trucks, Inc., Plainfield, N. J. Mack Trucks of Canada, Ltd., Toronto, Ontario.

0044

MACK
FIRST NAME FOR
TRUCKS

MACK for over 6 straight years NO. 1 by far in sales of diesel trucks



Smith-Erie meters + counters and ticket printers

Available in straight totalizing counters, reset counters, set stop counters or large numeral counters with or without printers.

Smith-Erie meters + adapters

Dual adapters permitting use of two counters indicating both gross and net gallons. Angle adapters tilt counter 45° for easy reading. Counter shifters to change from counter to counter while on stream.

Smith-Erie meters + set stop equipment

For delivering predetermined quantity of liquid or stopping and starting an electrically driven pump remote from the meter.

Smith-Erie meters + deaerators

For separation and release of entrained air and gas from product before they are metered — a must for metering accuracy.

Smith-Erie meters + temperature compensation

Automatically corrects the counter reading to true volume at 60° F.

Smith-Erie meters + remote metering systems

Permit remote location of the meter register and printer. Underwriters' Laboratory approved explosion-proof construction.

Smith-Erie meters + electric key lock

Permits individual keys to operate individual counters and control entire system.

ADDAPTABILITY

WITH SMITH-ERIE YOU CAN ADD AN ACCESSORY TO SATISFY ANY PETROLEUM METERING NEED

From Smith-Erie — a complete line of meters for petroleum products *and* a complete line of metering accessories. Put them together and you have the flexibility necessary to meet any liquid measurement need. See your Smith-Erie meterman for complete details.

Through research ...a better way

A.O. Smith
CORPORATION
Smith-Erie Division

Factory: 1602 Wagner Ave., Erie, Pennsylvania. Offices: Atlanta 5, Ga.; Chicago 3, Ill.; Houston 2, Texas; Los Angeles 22, Calif.; New York 17, N.Y.; Newark, Calif., Tulsa, Okla. Canada: Toronto 12, Vancouver 1. A. O. Smith INTERNATIONAL S.A., Milwaukee 1, Wis., U.S.A.

Gulf Solar Heat dealers... just one, big, happy family

MEET THE GARDNERS OF WELLESLEY, Massachusetts. Mr. Louis Gardner is the "General" to all his customers and to the 11 happy kids shown above. And "happy" pretty well describes the life led by the entire Gardner family. They skate together, ski together, and work together.

They work in a partnership with oil that dates back to 1919, when Mr. Gardner was drilling shafts in Mexico. In recent years, the Gardner partnership in General Heat Inc. has included Gulf Solar Heat. According to Louis Gardner and his sons, Fred and Richard, the happy family association has been more than successful.

The Gardners take full advantage of the Gulf supplied merchandising and local advertising material, saying: "We're probably one of the most consistent users. That, plus good service and the very best product, has made our business the profitable one it is."

Louis Gardner, "the General," at his office with the men who run General Heat: R. L. Gardner, C. A. Saunders, F. J. Gardner and J. C. Cullen.

Gulf Solar is Hydrogen Purified. It burns clean . . . burns hot. This means customer satisfaction, fewer service calls on fuel-caused problems. The less time spent on service calls, the more spare time you have to pursue hobbies and recreational activities . . . and the higher your profits, too.

GULF
SOLAR HEAT
heating oil

Go one better—go Gulf

Get Gulf's Planned Profit Program booklet, "Gulf offers all 4." Write **Gulf Oil Corporation,** Box 2140, Houston, Texas, for your copy.

IT'S EASIER! EASIER!

WITH Luxaire®

EASIER! *To Buy! To Install! To Sell! To Convert!*

(for Air Conditioning)

New, low prices on the most wanted sizes and models – all along the complete Luxaire line – make Luxaire Furnaces easier to buy than ever!

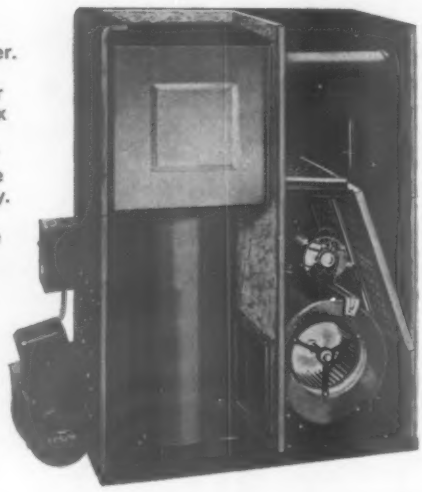
The same heavy construction, eye appeal and trouble-free performance – constantly upgraded – give Luxaire Furnaces more sales appeal than ever!

For gas, oil or electricity you receive Luxaire Furnaces in one compact carton – ready for hookup to fuel supply, electrical connection and ducts – for simplest possible installation!

Luxaire Furnaces can be converted for the addition of most capacities of summer air conditioning – without changing the large-capacity, standard equipment blower!

You secure all these advantages – *without the penalty of a big stock* – from your Luxaire Distributor.

Luxaire is the line of excellence that gives you *lowest installed cost* – costs less to buy, less to install and less to stock – keeps your money turning and your profits up!

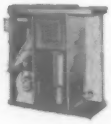


The new Oil Fired Winter Air Conditioner. Heavy-gauge round combustion chamber has refractory firebox for quiet operation. Rectangular radiator and long flue provide utmost heat recovery. Blower is next size larger than adequate for heating only. Factory assembled and wired. 84,000 – 112,000 Btu output. Also available with handsome vestibule enclosure.

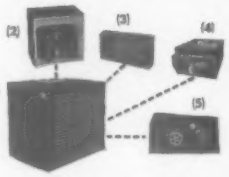
THE COMPLETE COMPETITIVE LINE OF HEATING AND AIR CONDITIONING

Horizontal Winter Air Conditioners for Gas and Oil

Counterflow Winter Air Conditioners for Gas and Oil



Basement Winter Air Conditioners burn either Gas or Oil



2, 3, 4 and 5 Ton Air Condensing Units with Companion Upflow, Horizontalflow or Counterflow Cooling Coil. 3, 4 or 5 Ton Blower-Coil Unit

2 or 3 Ton Top Capacity Air Cooled Self-Contained Units.

THE C. A. OLSEN MANUFACTURING COMPANY • • ELYRIA, OHIO

Luxaire® HEATING & AIR CONDITIONING UNITS

fueloil & oilheat

Better Heating with Zones

***In the Gay Nineties, one room Thermostat served a whole House
Today a House needs zoned Heat, usually a minimum of three Zones.
Further, for best Results you must provide individual room-temperature Control.
Here are Ideas on these things, for those who install forced-air Oil Heat.***

by John W. Schulz

ONE ROOM THERMOSTAT for an entire house really, to face facts squarely, was an idea for the gay nineties. It was an idea that jibed with the horse-and-buggy days.

Unfortunately that big idea, which dates back to 1885, today is still the big heat-control idea of many men of the fueloil and oil heat industry. That's in spite of the fact that most homes need at least three room thermostats for proper heat control . . . for comfort in every room, and for fuel economy.

Consider the house represented by accompanying Diagram 1, an actual home with a long record of heat-control difficulties.

The room that juts out of the house on the left is not added-on; it was part of the house built in 1913. However, the owner modernized this room some ten years ago, making it into a family room that became the favorite room.

This room faces south, has large and modern windows on three sides, and has unheated spaces both below it and above it. Twelve feet by seventeen feet, it is fairly large, has two-thirds the floor area of the living room, which is adjacent to it.

The owner thought the thermostat serving the entire house should be located here. He had a new, modern thermostat installed in this room.

The heat-control difficulties which followed were increased by the fact that the door of this room usually was kept closed. At first the owner thought these difficulties could be ended by balancing the heat, mainly balancing the living-room heat against the heat in the modernized family room. He learned in a few weeks of winter weather that balancing did not help at all.

He tried leaving the thermostat set at 72° of an evening, when he was home, and he balanced the supply-duct dampers so that during the evening the temperature of the main part of the house was 72° when the temperature also was 72° in the family room.

Heat from the sun poured into the family room daytimes, kept off the room thermostat set at 72°, and resulted in pathetically low temperatures in every other room in the house. That is, sun heat seemed enough for the family room when there was any sunshine at all and resulted in no oil heat for the whole house . . . even with outdoor temperatures down to 30°.

Severely cold weather had an opposite effect evenings and nights, and on cloudy days. Then as the outside temperature dropped to zero and lower, the much-exposed family room really needed much heat. Its heating needs increased vastly more than the heating needs of the other rooms.

With the family room kept at 72° on a zero night, the temperatures in the other rooms of the house soared to 80° and 85°.

A feeble attempt to end the trouble by locating the thermostat within the main house in the living room had these results: With the living room and main house at 72°, on a sunny day the family room became roasting hot . . . and of a cold evening this room became freezing.

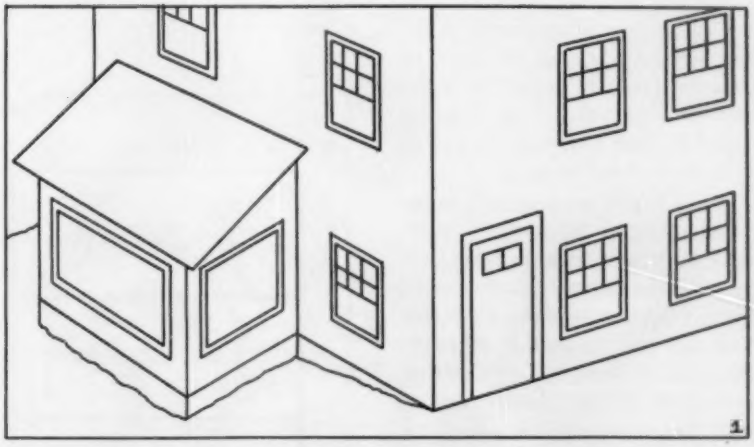


Diagram 1—The room jutting off the left side of this house is on the south side; its roof and large, modern windows give it much sun heat even on cold days when there's sunshine. Then it's the warmest room in the house. But nights it's the coldest room in the house, thanks to the large windows, three sides of cold walls, and unheated spaces above and below it. Zone control is a must here! A room thermostat in this jutting-out room cannot provide proper control of the heat in the main part of the house, cannot provide proper heat-control for this jutting-out room.

With the living room at 72° the southside bedrooms were far too warm on sunny days in winter, thanks to heat from the sun.

Heating engineers studying the house in Diagram 1 had to reach the conclusion, with which the owner agreed, that such a house needs at least four zones of heating—for each of its rooms to be even tolerably comfortable at all times in winter.

One, an independent zone certainly is need for the family room jutting off the south side of the house, for this room has weather-affected heating requirements entirely unlike those of the main house.

A second zone of controlled heat is needed for the first floor of the main part of the house. The main two rooms located here, the living room and dining room, are connected by a passageway ten feet wide that has no doors, hence these two rooms tend to have similar temperatures. The temperature of the kitchen, much affected by a cookstove, is not considered important to the performance of the heating system.

A third heat zone could serve the two upstairs bedrooms on the south side, and would prevent their overheating on days including strong sun.

A fourth zone could serve the other two upstairs bedrooms on the north side.

Four Zones Needed here

Without four room thermostats and four zones for heating, the house in Diagram 1 simply cannot be heated even tolerably well . . . all its rooms cannot be kept comfortably warm in all kinds of winter weather.

Without such zone control, either fueloil is wasted sufficiently to needlessly increase heating costs by 20% or so (some rooms are overheated much of the time to make certain that at no time will any room be miserably cold), or at times the occupants of some rooms are uncomfortably cold.

Diagram 2 represents a switch to a modern type of house, a split-level residence. The great popularity of such homes in certain areas, together with the attending characteristic heating problems, fortunately has caused many architects and builders to conclude that zoned heating systems are necessities for modern homes. Many men believe that a split-level house cannot be heated properly unless its heating equipment includes two, three, or four heat zones.

If the space below the right-hand bedroom in Diagram 2 is used as a garage, this bedroom certainly needs its own room thermostat for independent control of the bedroom heat.

If instead this space is used as a family room, rumpus room, etc. (instead of as a garage), then the space itself certainly needs its own thermostat, its own heat zone.

The left-hand two bedrooms and the living room and dining room may possibly be served well by one heat zone and one room thermostat . . . if the owner is both lucky and not critical about room temperatures. But an independent thermostat for the two bedrooms certainly would represent a vast improvement over that idea.

If the basement is finished off and put to use, undoubtedly it can be heated satisfactorily in a modern fashion only if it has its own room thermostat together with an independent source of heat.

To be heated properly in winter, split-level houses need zoned heating, at least two zones. That's well known enough even for certain mortgage interests to require that new, split-level homes have zoned heating systems.

One architect words it this way, "The heating of a three or four bedroom split-level house is zero satisfactory with one room thermostat in the house. It becomes 70% satisfactory with two-zone heating, 85% satisfactory with three-zone heating, and 100% satisfactory with four-zone heating. Paradoxically, you've got to provide individual room-temperature control, a thermostat in every room, for the perfect heating of any house."

Men of the fueloil and oil heat industry who are fighting electric heat must face the claim that individual room-temperature control usually comes as an inherent advantage of electric heat. Most homes heated electrically have a room thermostat in each and every room. Because of that, the costs of heating these homes electrically is much lower than it would be with just one thermostat for an entire house.

The way to fight these electric-heat arguments is to point out that a homeowner buying or building a new house pays for each room thermostat in it, no matter whether electricity or fueloil is used for heating the house. To provide individual room-temperature control along with oil heat is easy; any homeowner who wants it can have it.

The owner of a house heated by oil can have individual room-temperature control, however, or something short of this perfection in the form of two-zone, three-zone, or four-zone heating. Oil heat has the great flexibility that permits the builder of a home to select

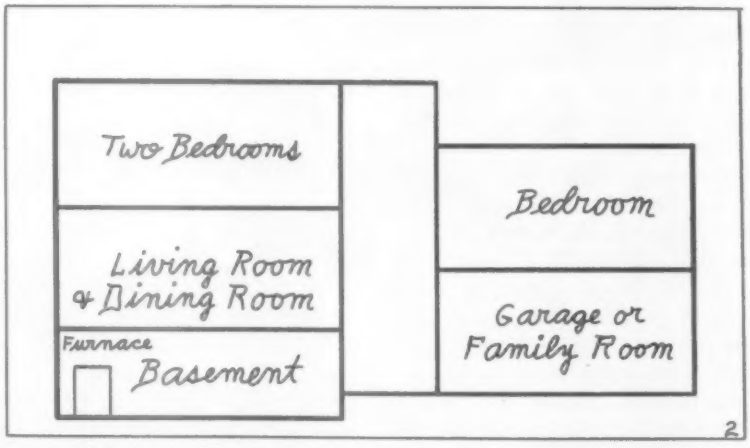


Diagram 2—A two-zone heating system is minimum for such a split-level house as this. A three-zone or four-zone system is much better.

precisely the type of modern heat-control which he desires and finds it suitable to pay for.

If the homes in Diagrams 1 and 2 have forced-air oil heat systems and are to be airconditioned in summer in a central-system manner using their already installed blowers, ducts, and registers, then zoning the duct systems becomes even more important than it is for only heating in winter.

Zoning forced-air systems actually works out to have the effect of increasing the power of refrigeration equipment of any, certain capacity . . . and used for summer cooling.

Because of sun heat affecting certain outside surfaces of a house, because of other weather conditions, and because of occupancy considerations, invariably a certain section of a house needs much more cooling-equipment capacity. Heaviest cooling loads shift from one part of a house to another. At noontime, rooms facing south may represent heaviest cooling loads; but in the late afternoon the rooms facing west may need most cooling.

An afternoon or evening gathering of friends may put either a dining room or a basement party room in need of most of the cooling ability of a refrigeration system.

With the cooling properly zoned, the maximum capacity of the refrigeration system automatically is directed, spotlighted, at the part of the house in need of the most cooling.

Heating-cooling engineers declare that the effect of this is so great that, for example, with proper zoning a 3½ ton refrigeration system will provide proper summer airconditioning in a certain size home, but without proper zoning (using only one room thermostat in summer for the entire house) a 5 ton system would be needed to provide comparable satisfaction for the same house.

Without proper zoning, these engineers say, only 20% of the cooling system's capacity may serve a room in which a dozen guests have gathered. With proper zoning, 50% of the capacity of the cooling system may serve that room automatically when the guests are in it.

Sun heat similarly is taken care of automatically by proper zoning. The room hardest hit by noontime sun heat automatically gets enough cooling to offset this heat. Later in the day, a room being hard hit by afternoon sun heat automatically receives enough attention from the cooling system to offset this heat.

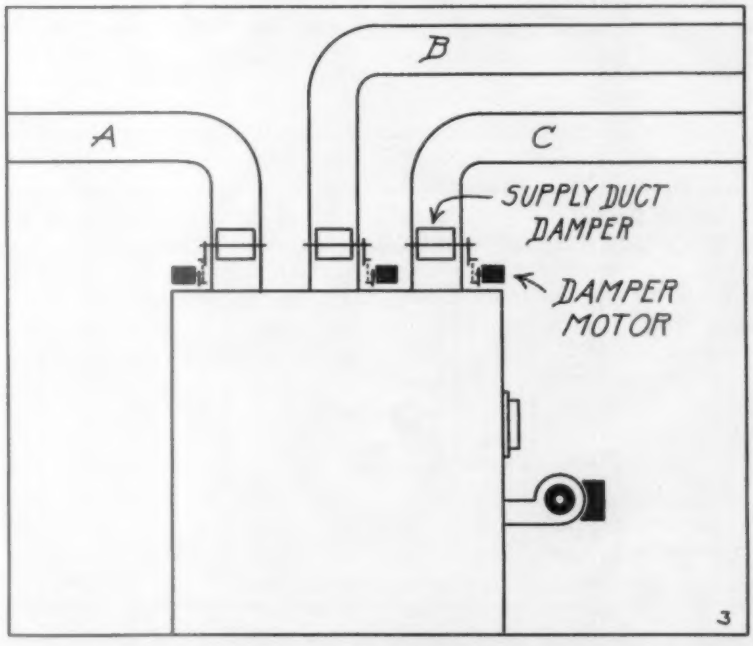


Diagram 3—"Volume dampers" provide simple and inexpensive zone control.

Diagram 3 represents simple volume-damper zoning of a forced-air system. Each of the three supply-duct dampers controls the volume or cfm of warm air going through the supply duct in which the damper is located. Three room thermostats are used.

Duct A sends heat to one zone of the house. Room thermostat A, located there, would cause a control motor to open damper A in winter when heat is needed. Ducts B and C also each have their own room thermostats, located in the zones they respectively heat, and in control of the dampers in these ducts, as shown in Diagram 3.

When all three damper motors put their supply-duct dampers in the closed positions, the oilburner remains idle. None of the zones need heat.

Limit Switch on each Motor

Each damper motor has or actuates a limit switch . . . a switch which closes a circuit when the damper motor opens its damper because the zone served by the damper needs heat. Thus the equipment includes three limit switches, and all of these are closed when no heat is needed.

These three limit switches are wired together in parallel, and to a circuit which can start the oilburner. If at first no zone needs heat (the three supply-duct dampers are closed) the oilburner remains idle. Next, one of the zones may need heat. Its damper motor opens its supply-duct damper. At the same time the damper motor closes its limit switch . . . and as the result this switch starts the oilburner.

The only additional control for the oilburner itself in Diagram 3 is the usual high-limit control or bonnet-temperature control.

The forced-air furnace in Diagram 3 includes a circulation blower or fan, of course, which is started and stopped in the usual way by its own reverse-acting bonnet-temperature control.

The damper motors used in such equipment are usually two-position or on-off. Such a damper motor has an arm, to move a damper, which goes immediately to one position when heat is needed, and to a second position when no heat is needed. The damper is either wide open or fully closed. In its closed position, the damper may let

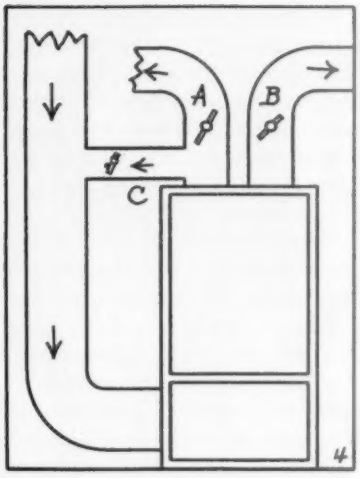


Diagram 4—Relief damper C avoids troubles of excessive air pressure.

through a small amount of air, perhaps 15% of its open-position amount, so that heat and warm air can escape from the furnace plenum if all three dampers happen to close at a time when the furnace temperature is at maximum or near-maximum.

The furnace's blower or fan will continue operating, of course, until the plenum temperature drops sufficiently to stop it, perhaps to 100°F. or so. During this time, warm air should be able to escape through one or more of the supply ducts—through one or more supply-duct dampers not tightly closed, yet in its "closed position."

For Diagram 3, certain perfectionists show a preference for "modulating" damper motors. Such motors can put supply-duct dampers in fully open or closed positions, and also in an infinite number of in-between positions. Steady, continuous flow of heat to rooms in winter, modulated to match precisely the ever-changing heat requirements of the zone, is the boast for these modulating damper motors that provide in-between damper positions.

Men who do not prefer modulating damper motors declare their prices are too high for the typical homeowner.

Diagram 4 shows the idea of a pressure-reducing or pressure-controlling bypass damper for a forced-air, zoned system. Suppose such a system has many zones, five or six (though Diagram 4 shows only two supply-duct dampers, labelled A and B). If only one or two of these supply-duct dampers are open, and if the furnace blower is running, the plenum chamber and supply-duct pressure may be so high as to cause whistling in the supply ducts which are in use, and in their supply registers. Warm air may blow furiously from the few supply registers which are in use—because the furnace blower is serving only them, as most of the supply-duct dampers are closed or nearly closed.

Under these conditions, bypass damper C in Diagram 4 is blown to its open position because the furnace blower is tending to develop excessive pressure in the furnace plenum. Bypass damper C avoids chances of difficulties related to excessive plenum pressure. In principles and action, damper C resembles a swinging-disc type barometric draft regulator made for a smokepipe. When the pressure on its input side is not excessive, it's held closed by a weight.

Warm-air specialists have altered barometric draft regulators properly, and used them as Diagram 4 shows. They remain closed when all, or nearly all, supply-duct dampers are open. They open only when necessary to prevent excessive bonnet pressure, which the furnace blower may develop as the result of only one or two of the supply-duct dampers being open.

When open, damper C in Diagram 4 causes recirculation of warm air; warm air leaving the plenum through this damper goes into the return duct on the left, then to the blower, then past the hot furnace again. A wise dealer in doubt about the need for such a damper can leave it off a new job, but be ready to install it if this proves advisable after starting of the system.

Diagram 5 shows a modulating zone-heat system that does not include volume dampers. Each zone is given a full flow of air at all times, whether it needs much heat or little heat. The temperature of the supply-duct air for each zone is varied, by the action of a modulating-type damper-motor, to keep the rooms of the zone at the proper, desired temperature.

If no heat whatsoever is needed by all the zones, the oilburner can be kept idle and the furnace will become cold, through the action of damper-motor limit-switches, the circuits of which open when the arms of all damper motors travel to their no-heat positions. Or instead the air circulation can continue fully, on the design basis, to each zone . . . when no heat whatsoever is needed.

Diagram 5 shows the modulating damper motors in their mid-heat positions. Half the air going to supply duct A is coming unheated from the blower through the half-open bypass damper; half the air going to this supply duct is coming from face damper C, and is heated air coming from the furnace.

If the rooms served by supply duct A become ever so slightly cooler, the arm

(*Please turn to page 69*)

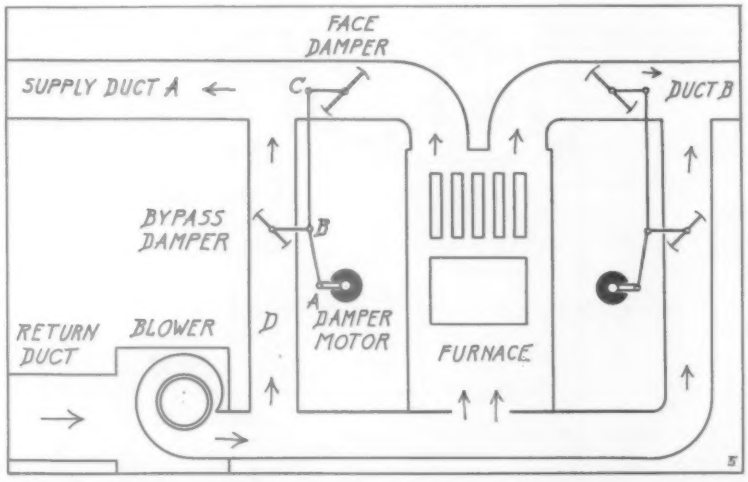


Diagram 5—This control set-up provides full-flow continuous air-circulation at all times, even when particular zones need little or no heat in winter.

Schooling the tank truck Salesman

Including Qualifications to guide your Choice for a solid, permanent Type

by Henry D. Crane

IN THE BACKGROUND of the oilheating industry most of us have called them "oil truck drivers," or in Boston's Back Bay they sometimes label them "Chauffeurs," but the new competition is calling for more than that. As gas and electric heating extend their influence, and each fuel delivers its form of energy without the benefit of rolling stock, it's up to us to make the big truck moving through the winding lanes of "Seaside Acres" as palatable as possible.

It's elementary that the largest single consideration here is the employing of an operator of the very best qualifications for customer relations as well as general public acceptance. Certainly the truck's appearance is a big item, and I vote for the less obtrusive, not gaudy decor. But just now we're thinking of men, and we'll consider quite a list of qualities, in something like textbook style.

Since these men come into more frequent contact with household consumer accounts than any other members of the organization, it follows that they should be chosen from the viewpoint of becoming outstanding commercial representatives of the Company. Generally speaking, the present status and responsibilities of men for this line of work are so entirely different from the "rough and ready" days of the inception of this industry, that they must be chosen with the greatest of care.

In addition to cardinal virtues, the men chosen for this work should possess certain qualifications above the average driver, such as: 1) intelligence, 2) potential sales ability, 3) ambition, 4) responsibility, 5) courtesy, 6) personal appearance, 7) soundness of mind and body, 8) flexibility and fitness for other lines of work, 9) possible off-season outside connections for other work, for a part of your group.

In addition, it goes without saying that they must be capable drivers and have a general knowledge of the various mechanisms of a truck, and the special accessory equipment used for fueloil delivery work.

Prospects for these jobs need not have had experience with competitive companies . . . it's often better if they have not, for difficulties may be encountered in breaking bad habits of men who have become too set in their ways.

The idea of having applicants interviewed by two or more executives of your company, who will later compare notes, will produce a valuable psychological effect upon the prospective employee. The applicant, in turn, as tentatively selected, should be required to work with an experienced tank truck salesman for a few days, whose final opinion should be asked as to the man's fitness for a permanent position.

All drivers should be bonded. Regulation company uniforms should be used and required at all times when the men are doing actual delivery work.

Outline for Training

As a general guide, all men selected for this type work should be given training somewhat as follows:

1) Let it be known at the start in a firm yet cordial manner that the Company's policies, regulations and all reasonable wishes must be faithfully complied with . . . and that consistent failure on the part of the employee should subject him to layoffs without pay, or of course vacating the position in favor of another man who is more worthy of the trust and responsibility.

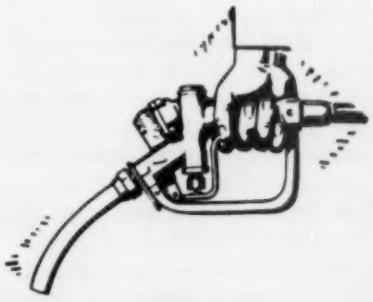
2) He must gain an intimate knowledge of the actual equipment he is to use, and a spirit of pride to excel in keeping that particular truck not only in good mechanical condition, but also as attractive as possible in appearance.

3) He must be instructed and tested as to his knowledge of metering and pumping equipment, safety devices, fire hazards, property damage, etc., at the plant, on the truck and at the point of delivery.

4) He must be made familiar with all the "Rules of Safety" and the "Rules of the Road," including those of the Company as well as those imposed by legislative rulings, to say nothing of courtesy to the drivers of other motor vehicles.

5) It must be indelibly impressed upon his mind that his truck and its load, improperly or carelessly handled, are a menace to public safety, and that they must at all times be handled with the greatest of care.

6) He should realize that he is in charge of a very expensive piece of equipment and that he must be ever vigilant to avoid accidents, loss or damage to the load, or to the property of others. He must always remember that the Company has "set him up in business," as it were, and he must exercise all diligence to keep from being "out of business" even for a day through failure of the truck as might occur through his negligence.



7) He should be patiently and particularly schooled as to the Company's policies on credit, sales, delivery and in a general way as to products and services.

8) The attributes of initiative, responsibility, loyalty and ambition should always be stimulated, with the idea in mind of still further accomplishment for the benefit of the Company and himself.

9) He should be inspired to fully keep pace with the development of the business, with opportunities for advancement as a reward for the faithful performance of his duties and the ability to excel in his productive efforts.

10) He must learn the value of team work, the idea of coordinating his thoughts and activities along with those of his fellow employees, for the over-all benefit of the Company.

11) He should be instructed as to the use of forms, and the collection and handling of money, under diligent and interested supervision.

12) The great value of courtesy at all times, particularly when in contact with customers, should be strongly and continuously emphasized.

13) The necessity for always presenting a clean, neat, alert appearance cannot be too strongly stressed.

14) It should be understood that he is not being employed as a "social conversationalist" and that he must not discuss his personal affairs nor his Company's affairs with the customers. He should be warned about gossip and small, petty talk.

15) When he is wrong, he should be counseled constructively. He is entitled to commendation for the exercise of good judgment, and for any noteworthy accomplishment as evidenced by his use of extreme intelligence or foresight, particularly in an emergency.

16) He should be stimulated continuously to become more and more sales minded and to be more than ever alert to sense and report prospective new accounts for oilheating equipment, fueloils and such other products or services as the Company may offer from time to time.

A number of fueloil distributors make a specific classification of tank truck salesmen. Primarily, the purposes are: 1) to keep the payroll expense at a ratio consistent with the variable seasonal volume of the work to be done; 2) to offer incentive to each man to exert at all times his best effort; 3) to increase and maintain sales volume through contacts and cooperation of trained tank truck salesmen.

This classification should be definitely established providing the Company is large enough to operate at least a half dozen fueloil trucks:

a) SENIOR or full-time men. This group should be limited to the minimum number of men required during the average seasonal period of lowest volume; b) JUNIOR or seasonal men. This group would be limited to the number of men needed in addition to Senior men during periods of actual average seasonal volume; c) PART TIME men employed in addition to the other two groups for work during the comparatively short seasonal peak activity.

The desirability of having trained, experienced and capable men, who through their own choice have other work to do in the off-season months cannot be overemphasized. Some such good men start in our industry as late as November first and leave by the end of March.

Some fueloil distributors favor allocating specific territories to each tank truck salesman, and there are some reasons for it but after serious scrutiny there seem to be more than sufficient reasons against following such a plan:

1) It is not always convenient from the Company's standpoint, especially in mild weather periods.

2) It is unwise to permit any person to get into a position where they may feel indispensable, or that should they leave the service of the Company a number of the customers that they have served will go with them, possibly to a competitor.

3) "Familiarity may breed contempt" applies in the possible relations between the employee and the customer.

4) It is more difficult to check the "time element" in connection with a particular piece of work. Occasional interchanging of men and customers or territory served by them may stimulate a healthy rivalry, in trying to excel the performance of another man on the same task, especially where a superior performance is rewarded.

5) The Company is handicapped in the event of illness or the sudden departure of a particular man to another job.

6) The inevitable and widespread habit on the part of some customers, insisting upon services only from a cer-

tain driver because they like him is perhaps flattering in a sense, but it is not a wholesome situation. All men of the organization should continuously strive to perform their work so intelligently and considerately as to make them actually well liked by all customers.

In the final sense, practical policy suggests not carrying the idea of interchangeability to ridiculous extremes . . . a middle course should be adopted. It is advisable, insofar as feasible from the Company's viewpoint, to keep a man regularly in charge of a certain piece of equipment. This of course has a bearing on territory flexibility.

To further safeguard the principle of maximum flexibility, employees should have it made clear at the outset that they have entered the Company's service for the performance of any and all types of work for which they may be capable and to which they may be assigned.

And even though their compensation may be on a production basis, they are expected to be willing at all times to do any work closely related to the expeditious handlings of deliveries, such as the required amount of paper work and the maintenance of equipment. This refers to cleanliness and careful inspection and reporting of anything needing mechanical attention or handling from the safety angle.

Each driver should make a daily inspection of: 1) brakes; 2) steering mechanism; 3) condition of tires and their proper inflation; 4) lights, horn, windshield wipers and safety devices; 5) gasoline, motor oil and water; 6) special accessory equipment for fueloil delivery.

Insofar as practical, trucks should be serviced and loaded at night, thereby escaping the early morning congestion and typical delays incident to lack of deliberate preparation for an early start of each day's work.

The men should be continuously stimulated to exercise greater cooperation in the necessity for accurate inventories, in reporting physical conditions at point of delivery which slow down deliveries.

They should be constantly alert to any possible customer attitude of unfriendliness toward the Company, its products or service. In addition, they can frequently help sales by reporting all possible new prospects such as new homes, new residents, vacant houses previously served by competitors.

In summary, it is clear that no single individual contributes more to the success of the fueloil distributor than the tank truck salesman. He deserves to be well paid within the practical limits of prevailing margins. Meticulous training and constant awareness by management of the man and his performance help to make possible a prosperous company where he can earn the good living he wants and needs.

Ed Heeg honored for fine industry Service

THE PETROLEUM Technology Club of New York City Community College presented the "Petroleum-Man-of-the-Year Award" to Edward T. Heeg, at its 7th Annual Petroleum Luncheon on March 21st.

Mrs. Betty Hawley Donnelly, Vice-Chairman of the Advisory Board on Vocational Education, Board of Education, City of New York, and Secretary of the New York State Advisory Commission for Petroleum Distribution, who is a member of the Board of Trustees of New York City Community College, presented a brass and wood plaque to Mr. Heeg.

Dr. Lawrence Lee Jarvie, newly-inaugurated president of the College, also presented a plaque to the "Petroleum Student-of-the-Year," Dean G. Hotaling, 190 Willoughby St., Brooklyn. For the past two semesters, Dean Hotaling has been elected President of PHI-T.

Heeg has served as Chairman of the Mayor's Fuel Emergency Committee during the 38-day tug boat strike which threatened New York's supply of fueloil, during which time he developed the idea of over-the-road transportation from outlying areas and implemented the necessary temporary changes in regulations in New York City and surrounding areas, making this mobile pipeline possible. In addition to his position as Executive Vice-President with the New York Oil Heating Association, Heeg is a member of the New York State Petroleum Education Foundation; on the Advisory Commission for Petroleum Distribution, New York City Community College; and on the advisory Commission, Automatic Heating of Long Island Agricultural and Technical Institute. He entered the fuel industry in 1957 after serving with the New York City Fire Department for 20 years, during which time he spent 5 years as Chief in Charge of the Division of Fire Prevention.

Better Business Bureau issues fuels Standards

THE METROPOLITAN NEW YORK Better Business Bureau has issued a "Standard for the Advertising and Selling" of home heating Fuels, effective March 15.

The Standards were developed with the cooperation of local industry representatives, including gas companies and major fueloil organizations. They were prepared with the objective of maintaining sound advertising and selling practices to serve the best interests of the public and industry alike.

There are four parts to the brief Standards, preceded by this preamble:

"Some highly competitive claims by advertisers of the two major types of fuel for home heating—oil and gas—have engendered complaint and criticism to the Better Business Bureau, and have raised serious questions as to their propriety, both from the standpoint of the public and that of the industry itself. These Standards are therefore issued by the Bureau, after consultation and agreement of representatives of gas and oil companies, for the guidance of industry members."

The four parts cover:

"Scare" or "fear" advertising, with the stipulation that it not be used;

Derogation of competitors, pointing out that products or services should be offered on their merits and not by disparaging or attacking competitors;

Substantiation of claims—accuracy of advertised claims to be supported by facts in the possession of the advertiser and made available by him to the Bureau;

Adequate disclosure — including terms and limitations of guarantees, warranties or service policies.

How about Leasing?

There are several Forms, but 'Finance Leasing' seems to offer benefits to certain fueloil Distributors

by Irwin Hochberg, C.P.A.

LEASING in the United States has had an extensive and old background, although the interest which has been generated in it seems to have become popularized in the last decade, it stems from as far back as 1877. At that time, the Bell Telephone System decided to lease rather than sell its instruments to its customers. Modern leasing differs in that in many cases the leasing company usually buys only when and what its customer specifies and carries no inventory.

The growth and expansion of leasing has reached the point where it encompasses almost every industry and inroads have even been made in leasing personal property to individuals. Thus, a fueloil reseller may lease oil trucks, bowling alleys lease bowling equipment, airlines lease jets and helicopters, breweries lease metal beer kegs, homeowners lease carpeting. The illustrations are endless and have been known to involve tugboats, store fixtures, soap racks and all forms of capital goods.

For many years, the lease-back principle in connection with retail stores and the method of the railroads' leasing of railroad cars has been used. In recent years this principle has been employed in offering to the business community as an opportunity to "lease" instead of "buy." In the 1860's, United Shoe Machinery worked out licensing agreements with users of its equipment. American Car and Foundry has leased the railroad cars it builds for 30 years and in the petroleum industry an estimated $1 billion is tied up in equipment leased to gas station owners.

With the growth of the leasing industry, numerous terms have been used; some interchangeably. Leasing itself may take one or another form and differs basically from renting. A clarification of the terminology is essential to a fuller understanding of the subject.

Leasing first should be distinguished from renting. The dictionary definition of both terms is used interchangeably. Leasing is defined as "To grant or obtain the temporary possession of; rent; etc." whereas rent is defined as "To obtain or let out for rent; hire." However, the modern economic definition has by usage been more specifically defined so that renting and leasing differ in certain basic areas such as:

Leasing—leased equipment or assets may generally be used as many hours a day as desired. A customer must contract to use the item for minimum requirements and frequently must agree to use it all the time during the period of the lease. The term of a lease generally is a long term arrangement and control of the equipment is with the lessee.

Renting—differs basically in that the asset (particularly in the vehicle and construction field) is contracted for a short term of an hour, a day, or a week or a month. Rates for truck renting are usually standardized, whereas a leasing contract is customarily made to suit the needs of the individual lessee and is based upon numerous other factors.

Leasing to fueloil dealers generally will find most application in connection with trucks and motor vehicles. Certainly, the advantages of leasing are not confined to these assets, for leases have been arranged for storage tanks, accounting machines, electronic instruments and the many complicated items of machinery in a refinery. Truck leasing, the most common form of leasing today with closest affinity to fueloil takes several forms.

Truck leasing with full service—some truck leasing companies specialize in making available a vehicle with costs of maintenance, garage, fuel, tires, and insurance included in the rent. The vehicle may or may not be leased with a driver. Usually it is not and the lessor is then in a position to operate the leased vehicle either privately or for hire. This is sometimes promoted as a "drive yourself" service. If the leasing company specializes in this type of leasing, it is frequently able to offer to a small fleet owner improved maintenance procedures and proper supervision and maintenance because of its expert management.

Quick trip leasing—In some circumstances, the lessor supplies both the vehicle and the driver for a specific trip and the leasing charge is computed on a load basis. This leasing service is provided frequently in the petroleum industry by interstate or intrastate common carriers who haul from point to point based upon a published tariff schedule. To the lessee this offers the advantage of not being concerned with idle time, employee problems, state and federal regulations and maintenance and ownership of specialized equipment.

Finance leasing—The common form of vehicle leasing today, known as "true leasing," "pure leasing," or "finance leasing" is provided by the manufacturers or by leasing companies specializing in this activity. There are a great variety of leasing plans available. Each is worked out to suit the needs of the lessee or to satisfy the lessor who seeks a competitive advantage. In "finance leasing" generally a long term contract is worked out which assured the owner of recovery of all or a major part of his investment. The lessee must supply all repairs, fuel, garaging and insurance. The vehicles which are leased are selected from the manufacturer by the lessee but ordered and purchased by the lessor.

Advantages of Leasing

Because of the rapid growth of leasing in the United States, many companies have been formed which attempt to merchandise leasing principles and techniques with impressive and seemingly conclusive advantages which can accrue to the prospective lessee. The list is for the most part ample justification for a leasing program, but only in some cases are the advantages applicable in the particular circumstances of the businessman.

Each proposal must be evaluated in the light of the particular needs of the

prospective lessee. In this connection the lessee should be certain to consider the cost of leasing compared with the cost of owning, his financial condition, bank exposure, and ability to borrow both before and after buying or leasing. In short he should not assume that the advantages in all cases apply to every businessman in the same measure. All facts involved should be considered.

Some of the more common advantages of leasing frequently encountered are:

Frees working capital—A basic feature of all leasing plans is that it releases capital for investment and makes the funds available for other business purposes. This has a major appeal to top management. For a growing company, that needs working capital for expansion, it can be a prime factor in favor of leasing vehicles.

The test which must be made is whether or not the earnings made from the now freed capital should show a profit greater than the net expense of leasing.

Costs are known in advance—A full service lease plan can offer an all inclusive cost. However, a finance leasing program, where the lessee pays all costs of maintenance is similar to ownership in the first instance.

Less down payment required—Hand in hand with the advantage that it frees working capital, leasing offers the user an opportunity to procure for his use a vehicle under lease with a minimum down payment or nominal deposit. The businessman who decides to own, however, is required to pay between 10% and 25% down-payment on the typical finance plan. Potential lessees should not be those who are merely trying to avoid a down payment because of weak credit. The lease should not be used as a camouflage for a shaky credit situation. A lease commitment, an expense of operations, must be met from the normal net income of the business, and the businessman would be well advised to be fully cognizant of this.

Leases are generally of a longer term—The leasing companies have taken a more liberal view in extending the term of the lease beyond that normally considered advisable by the banks or other commercial finance institutions. Again, this should be considered in evaluating the over-all credit situation of the prospective lessee.

Does leasing offer tax advantages?—This area of the leasing approach has been most frequently misunderstood and very often tends to be misleading in the advertising media made available by the leasing companies. For that reason this subject is treated separately elsewhere herein. Suffice it to say at this point that the deductibility of a lease rental is not assured merely because the "arrangement" is termed a lease, and only the most competent tax advice should be sought for a satisfactory interpretation of each situation.

Leasing has attractions in other special situations. Bank indentures sometimes limit borrowing for capital additions; top company executives in national organizations may require limitations to be imposed on asset expenditures by divisional executives; stockholders may be critical of extensive plant expansion. In all these cases, the growth of the business can continue with leasing. It should only be contemplated, however, within the bounds of prudent business management and not as a means of concealing a poor credit situation.

Tax Considerations

The oft-repeated approach by the salesman who sells "leasing" is that it saves taxes. At the outset it should be understood that you do not obtain a tax deduction for an expense merely because it takes the form of a lease. If an expenditure creates a deductible expense either in the form of depreciation or "leasing cost," it must in and of itself satisfy the regular tests of deductibility. It must be an ordinary and necessary expense incurred in connection with the operation of a trade or business. Do not think of leasing a car for personal use so as to secure a tax deduction. It cannot be and you may be unnecessarily paying for leasing with no off-setting advantage.

At best it can be said that leasing postpones taxes. If it can do this, it offers a very real advantage to the businessman by improving his cash flow and making more funds available to be reinvested in his business and produce higher earnings.

To begin with, Sec. 162 (a) (3) of the 1954 Internal Revenue Code permits an expense deduction for "rentals or other payments required to be made as a condition to the continued use or possession, for purposes of the trade or business, of property to which the taxpayer has not taken or is not taking title, or in which he has no equity." It is the latter portion

of that paragraph which has plagued lessors and lessees alike and has resulted in long litigation between Internal Revenue Commissioners and taxpayers.

Revenue Dept. Ruling

Revenue ruling 55-540 sets forth the government's position with respect to the interpretation of leases which are to be classified as purchases and sales. This revenue ruling says that the government will classify as a purchase and sale a transaction in which one or more of the following are present:

- Portions of the periodic payments are made specifically applicable to an equity to be acquired by the lessee.
- The lessee will acquire title upon the payment of a stated amount of rentals which under the contract he is required to make.
- The total amount which the lessee is required to pay for a relatively short period of use constitutes an inordinately large proportion of the total sum required to be paid to secure the transfer of title.
- The agreed rental payments materially exceed the current fair rental value. This may be indicative that the payments include an element other than compensation for the use of property.
- The property may be required under a purchase option at a price which is nominal in relation to the value of the property at the time the option may be exercised, as determined at the time of entering into the original agreement, or which is a relatively small amount when compared with the total payments which are required to be made.
- Some portion of the periodic payments is specifically designated as interest or is otherwise readily recognizable as the equivalent of interest.

The important thing to note is that the clauses in your lease cannot be construed to purchase equity for the lessee. A purchase option at a nominal price would also appear to defeat the lease purpose.

If the lease is in fact construed to be a purchase for tax purposes, then it can be seen that the rules of depreciation would apply to compute the deduction. In cases where the normal life of the asset is similar to the term of the lease, there should be no problem other than that created by salvage value.

A Court of Appeals decision, reversing the tax court, illustrates one lease that obtained the desired results. The lease involved 93 pieces of equipment, under 75 written "lease agreements." None of the leases contained an "option to purchase" cause. At the end of the lease term, the lessor sold to the lessee. The Court of Appeals, in holding for the taxpayer, said that "the absence of either an option clause or a stipulation providing that upon payment of a stipulated rent title would vest in the taxpayer is likewise fatal to a contention that the instruments upon their face have the characteristics of a conditional sales contract." (Western Contracting Corp.)

Financial Statements

Purchase of an asset for cash removes a sum from working capital and places a like sum in a "non-current" category. Purchase of an asset subject to a conditional sales contract or a chattel mortgage creates a current liability to the extent of the installments due within one year. Long term debt is created for the balance. In either case the balance sheet is affected in that working capital is reduced and/or funded debt is increased in relation to net worth. If you lease, no asset can be reflected inasmuch as title to the asset is with the lessor and no liability is reflected, with the exception of the current installment.

There is a growing trend among auditors to disclose, where substantial, the lease commitments as part of the company's total financial picture. It is generally agreed that the lease obligation should be foot noted on the balance sheet or set forth in the long form report or prospectus.

The Committee on Accounting Procedure of the American Institute of Certified Public Accountants has indicated that "material amounts of fixed rental and possible related contingencies are material facts . . . and those who rely on financial statements . . . are entitled to know of the existence of such leases . . . that disclosure should be made in financial statements or in notes thereto."

A vast range of capital goods, essential to the industrial growth of America is presently under "lease." Rental payments on items from postage meters to helicopters exceed $400 million annually. The impressive array of industrial giants who lease includes General Motors, RCA, Textron, Clary Corp., American Airlines and Sylvania Electric.

Most still buy Trucks

In spite of all the situations in which leasing is advantageous, there are many where outright purchase is better. It may be cheaper. Only after a thorough examination of all the factors pro and con can an intelligent evaluation be made. It is important to note that the value of leasing depends strictly upon a comparison between your own operational costs and those advantages offered by the leasing company.

Controls Classes start in New York

A SCHEDULE of classes for instruction in automatic oilheating controls and automatic oilheating electronic controls for commercial-industrial burners has been announced covering evening classes in two New York City high schools.

The classes are open to those employed in the industry as installers, servicemen or mechanics. They are held on Monday and Wednesday evenings at the Brooklyn Evening Technical Trade School and at the Thomas A. Edison Evening Trade School. Automatic oilheating controls classes started on February 27 at Brooklyn Tech and will begin on April 17 at Edison. Classes in electronic controls are scheduled to start April 17 at Brooklyn Tech and on May 29 at Edison.

Frank Ammon will conduct the 12 session course on oilheating controls; Jules Wagner will be the instructor for the six session course on electronic controls for commercial and industrial oilburners.

Harvest of Ideas

National Fueloil Council holds 8th Promotional Conference for Markets

IDEAS, THEME and advertising philosophies were exchanged at the 8th Promotional Conference of the National Fueloil Council, Inc., on March 9 and 10, in Atlantic City.

Robert Gray, FUELOIL & OIL HEAT editor and retiring president of NFC, called the Conference a "harvest time to look at the programs in operation throughout the prime oilheating markets."

He introduced Glenn Werly, recently appointed head of the National Oil Fuel Institute. Werly promised that by using the nucleus of two fine organizations (National Fueloil Council and Oil-Heat Institute of America) a new hard hitting association would be formed.

He assured the group that the majors are aware of what's happening to the middle of the barrel, and that the dealers and the refiners both realize something must be done about it. He emphasized that the new organization would need from all segments of the industry: confidence, support and criticism and from this—a fine association, ably staffed with a united front would be evolved to help with these marketing problems.

The conference was split into geographic groups with each region discussing particular promotions in their areas. At preliminary meetings the individual market representatives had met to prepare their own panel presentations and to discuss a particular question suggested by the NFC staff.

In addition to the regional panels there were three special panels: The first was a home building feature, the second was on the NFC communications program, and the third was on new markets, new equipment and new horizons.

Wat Tyler, Boston, and Perry Peterson, Cities Service, presided over the New England Panel. This group had as its special problem the discussion of subsidies and Bob Cullen presented its thinking. He said that in the Boston area the price differential between the cost of a gas and oil furnace installed was only $57. This included the gas supply line and the oil tank. He suggested that the new organization find out for once and for all if the gas subsidies that range from $65 to $125 are legal. He pointed out that these subsidies come from the stockholders and not from the utility rates.

He urged that the industry go directly to the public with its story and stress that oil could save the homeowner $2,000 over the life of a mortgage.

The Rhode Island promotion program was described by Ralph Keys. Here the local Council uses TV to help builders sell homes equipped with oilheating.

Charles Robinson, Greenwich, Conn., requested additional documentation to help sell oilheating. He said that the industry must get its facts and figures into the engineering handbooks. He feels that industry standards for oilheating—both equipment and the fuel are needed to strengthen the selling story.

Active participation in policy-molding advisory agencies was called for by Bob Lynch of Hartford. Such memberships would be helpful in revising discriminatory codes and ordinances.

Reggie Moffat opened the South Atlantic regional panel, and Robert Low, Delhi-Taylor, was the refiner chairman. Moffat made some practical suggestions on how to get members to participate in local campaigns. Have frequent, lively programs. Get information into the hands of members. Get past the owners and tell your story to

Florida's handsome billboards use the new oilheating symbol.

of that paragraph which has plagued lessors and lessees alike and has resulted in long litigation between Internal Revenue Commissioners and taxpayers.

Revenue Dept. Ruling

Revenue ruling 55-540 sets forth the government's position with respect to the interpretation of leases which are to be classified as purchases and sales. This revenue ruling says that the government will classify as a purchase and sale a transaction in which one or more of the following are present:

- Portions of the periodic payments are made specifically applicable to an equity to be acquired by the lessee.
- The lessee will acquire title upon the payment of a stated amount of rentals which under the contract he is required to make.
- The total amount which the lessee is required to pay for a relatively short period of use constitutes an inordinately large proportion of the total sum required to be paid to secure the transfer of title.
- The agreed rental payments materially exceed the current fair rental value. This may be indicative that the payments include an element other than compensation for the use of property.
- The property may be required under a purchase option at a price which is nominal in relation to the value of the property at the time the option may be exercised, as determined at the time of entering into the original agreement, or which is a relatively small amount when compared with the total payments which are required to be made.
- Some portion of the periodic payments is specifically designated as interest or is otherwise readily recognizable as the equivalent of interest.

The important thing to note is that the clauses in your lease cannot be construed to purchase equity for the lessee. A purchase option at a nominal price would also appear to defeat the lease purpose.

If the lease is in fact construed to be a purchase for tax purposes, then it can be seen that the rules of depreciation would apply to compute the deduction. In cases where the normal life of the asset is similar to the term of the lease, there should be no problem other than that created by salvage value.

A Court of Appeals decision, reversing the tax court, illustrates one lease that obtained the desired results. The lease involved 93 pieces of equipment, under 75 written "lease agreements." None of the leases contained an "option to purchase" cause. At the end of the lease term, the lessor sold to the lessee. The Court of Appeals, in holding for the taxpayer, said that "the absence of either an option clause or a stipulation providing that upon payment of a stipulated rent title would vest in the taxpayer is likewise fatal to a contention that the instruments upon their face have the characteristics of a conditional sales contract." (Western Contracting Corp.)

Financial Statements

Purchase of an asset for cash removes a sum from working capital and places a like sum in a "non-current" category. Purchase of an asset subject to a conditional sales contract or a chattel mortgage creates a current liability to the extent of the installments due within one year. Long term debt is created for the balance. In either case the balance sheet is affected in that working capital is reduced and/or funded debt is increased in relation to net worth. If you lease, no asset can be reflected inasmuch as title to the asset is with the lessor and no liability is reflected, with the exception of the current installment.

There is a growing trend among auditors to disclose, where substantial, the lease commitments as part of the company's total financial picture. It is generally agreed that the lease obligation should be foot noted on the balance sheet or set forth in the long form report or prospectus.

The Committee on Accounting Procedure of the American Institute of Certified Public Accountants has indicated that "material amounts of fixed rental and possible related contingencies are material facts . . . and those who rely on financial statements . . . are entitled to know of the existence of such leases . . . that disclosure should be made in financial statements or in notes thereto."

A vast range of capital goods, essential to the industrial growth of America is presently under "lease." Rental payments on items from postage meters to helicopters exceed $400 million annually. The impressive array of industrial giants who lease includes General Motors, RCA, Textron, Clary Corp., American Airlines and Sylvania Electric.

Most still buy Trucks

In spite of all the situations in which leasing is advantageous, there are many where outright purchase is better. It may be cheaper. Only after a thorough examination of all the factors pro and con can an intelligent evaluation be made. It is important to note that the value of leasing depends strictly upon a comparison between your own operational costs and those advantages offered by the leasing company.

Controls Classes start in New York

A SCHEDULE of classes for instruction in automatic oilheating controls and automatic oilheating electronic controls for commercial-industrial burners has been announced covering evening classes in two New York City high schools.

The classes are open to those employed in the industry as installers, servicemen or mechanics. They are held on Monday and Wednesday evenings at the Brooklyn Evening Technical Trade School and at the Thomas A. Edison Evening Trade School. Automatic oilheating controls classes started on February 27 at Brooklyn Tech and will begin on April 17 at Edison. Classes in electronic controls are scheduled to start April 17 at Brooklyn Tech and on May 29 at Edison.

Frank Ammon will conduct the 12 session course on oilheating controls; Jules Wagner will be the instructor for the six session course on electronic controls for commercial and industrial oilburners.

Harvest of Ideas

National Fueloil Council holds 8th Promotional Conference for Markets

IDEAS, THEME and advertising philosophies were exchanged at the 8th Promotional Conference of the National Fueloil Council, Inc., on March 9 and 10, in Atlantic City.

Robert Gray, FUELOIL & OIL HEAT editor and retiring president of NFC, called the Conference a "harvest time to look at the programs in operation throughout the prime oilheating markets."

He introduced Glenn Werly, recently appointed head of the National Oil Fuel Institute. Werly promised that by using the nucleus of two fine organizations (National Fueloil Council and Oil-Heat Institute of America) a new hard hitting association would be formed.

He assured the group that the majors are aware of what's happening to the middle of the barrel, and that the dealers and the refiners both realize something must be done about it. He emphasized that the new organization would need from all segments of the industry: confidence, support and criticism and from this—a fine association, ably staffed with a united front would be evolved to help with these marketing problems.

The conference was split into geographic groups with each region discussing particular promotions in their areas. At preliminary meetings the individual market representatives had met to prepare their own panel presentations and to discuss a particular question suggested by the NFC staff.

In addition to the regional panels there were three special panels: The first was a home building feature, the second was on the NFC communications program, and the third was on new markets, new equipment and new horizons.

Wat Tyler, Boston, and Perry Peterson, Cities Service, presided over the New England Panel. This group had as its special problem the discussion of subsidies and Bob Cullen presented its thinking. He said that in the Boston area the price differential between the cost of a gas and oil furnace installed was only $57. This included the gas supply line and the oil tank. He suggested that the new organization find out for once and for all if the gas subsidies that range from $65 to $125 are legal. He pointed out that these subsidies come from the stockholders and not from the utility rates.

He urged that the industry go directly to the public with its story and stress that oil could save the homeowner $2,000 over the life of a mortgage.

The Rhode Island promotion program was described by Ralph Keys. Here the local Council uses TV to help builders sell homes equipped with oilheating.

Charles Robinson, Greenwich, Conn., requested additional documentation to help sell oilheating. He said that the industry must get its facts and figures into the engineering handbooks. He feels that industry standards for oilheating—both equipment and the fuel are needed to strengthen the selling story.

Active participation in policy-molding advisory agencies was called for by Bob Lynch of Hartford. Such memberships would be helpful in revising discriminatory codes and ordinances.

Reggie Moffat opened the South Atlantic regional panel, and Robert Low, Delhi-Taylor, was the refiner chairman. Moffat made some practical suggestions on how to get members to participate in local campaigns. Have frequent, lively programs. Get information into the hands of members. Get past the owners and tell your story to

Florida's handsome billboards use the new oilheating symbol.

employees. Keep all meetings interesting—and keep gasoline out of the meeting.

Don't complain about a few doing all the work, they always will, remarked Moffat. Get more refiners to participate.

At the campaign level the South Carolina group spends most of its money in newspapers and the greatest part of this budget is devoted to the builder program. In addition, they use billboards, taxi cards and stuffers to keep contact with old customers.

The two campaigns in North Carolina are geared for the different areas they serve, according to Curtis Long. In the Eastern section where tobacco curing with oil is a large market factor, the Council uses television to reach the public. They are trying to cement relations with the member dealer and also aim to get him interested in merchandising. A kit has been prepared containing information and guidance on this topic and also has ads for use in real estate sections.

Builder Emphasis

The central North Carolina campaign is directed not solely to the consumer but primarily to the architects, builders, finance institutions and local government officials. Each County compiled its own mailing list; booklets and reprints from NFC were sent out. The project cost 13¢ per contact and resulted in saving some commercial jobs, plus additional inquiries.

Down in Florida the group pays a lot of attention to the builder according to Mark Barker. They also run prestige ads in TV Guide and the Sunday supplements. The new roof-top symbol is used in all advertising.

Charles Kramb, Gulf Oil, presented the Central Atlantic Region's arguments in favor of a national campaign. To attain such a goal, he urged a uniformity of theme for smaller groups without agencies. He called oilheating promotion basically a grassroots level organization and warned against any national campaign taking funds from local efforts.

In spite of a massive assault by the Utility, the Baltimore campaign has succeeded in holding annual losses to natural gas to 0.23% according to Bob Meyers. This group looks to future with stress on the point that oil is the Jet Age fuel; they plan to stake out a claim for oil and they insist that gas heating is a static industry—something that is not true of oil.

The Tidewater section of Virginia's program was presented by Tom Ellis. Using testimonial ads from homeowners who have switched from gas to oil, the group will use TV to tell of oil's savings and additional comfort.

P. T. Lomenzo, Atlantic, was the refiner chairman of the North Atlantic panel, and introduced Kirk Shivell representing York, Pa., who gave the group's ideas on how individual or cooperative advertising by refiners can be brought closer to group advertising.

Shivell said that refiners should stop negative advertising, should stop stressing that theirs is a "Cleaner oil." Flexibility in the way advertising is applied, to adapt it to media and the market, will help oilheating.

Supplementing the topic with the refiner's viewpoint was J. Frattini, Sun Oil, who recommended that major oil company advertising be aimed at selling complete comfort and be slanted to aid the distribution segment of the industry.

Among the markets presenting their promotional activities on this panel were Long Island, Philadelphia, Niagara Falls, Buffalo, Hudson Valley and Suburban Philadelphia. Irving Oelbaum described the latest New Jersey promotion which started in the fall of 1960 and which uses the Levittown success story as a theme. Oelbaum warned that advertising alone would

SUCCESS STORY

How 311 N. J. Levittown families **saved** from $109.57 to $172.26 a year by moving up from gas to OILHEAT

These Documented Facts may help YOU make an important decision that will **save you money** next winter... and for years to come

Since September 1960, 311 homeowners in Levittown, N. J., switched from GAS — which was in their homes when they bought them — to modern OILHEAT.

They made this move because they were firmly convinced they would *save money . . . enjoy greater safety . . . and have a clean home* with modern OILHEAT.

THEY WERE RIGHT IN EVERY RESPECT.
And here is the proof:

These homeowners saved from 35% to 45% over their gas bills.

They saved amounts ranging from $109.57 to $172.26 during the year.

Each will save up to $4306.50 over the life of his 25-year mortgage.

Your independent OILHEAT DEALER will be glad to show how you can save SUBSTANTIAL AMOUNTS by converting from Gas to modern OILHEAT. Call him today. Or send for free booklet, "SUCCESS STORY — LEVITTOWN, N. J."

OIL HEAT COUNCIL OF NEW JERSEY

1060 BROAD STREET
NEWARK 2, NEW JERSEY
MArket 3-2420

"Be Safe and Save with Clean Oilheat"

OIL HEAT

Send This Now or phone Market 3-2420

Oil Heat Council of New Jersey
1060 Broad Street
Newark 2, New Jersey

— Please send me a copy of "Success Story — Levittown, N. J." without obligation.
— Please send me the names and addresses of the local independent Oilheat Dealers who will give me a Free Heating Survey.

Name _____
Address _____
City _____

not sell equipment—the industry needs salesmen to go out and get the orders.

The final market report on the two day program was the Midwest regional panel with Bill Scheitlin, American Oil Co., as refiner chairman. Carl Jonswold reported the group's thinking on how a closer relationship between supplier and reseller might be achieved. Looking backward he had found both sides self-centered and short sighted, unwilling to work together in associations. Right now, some companies are spending advertising dollars to send customers to the utility by stating that the oil user has problems with his fuel-oil, service, etc.

A program to educate dealers and refiners, alike, is needed if the oilheating image to the public is to be improved.

Best of Midwest

A roundup of the "Best of the Midwest" was made by Kent Lee who before describing the program said the local groups now have a fighting spirit. In Chicago, where there is no price advantage for oil, the advertising sells at the Cadillac level inferring that gas heat is the cheap fuel for cheap homes. Prestige ads in Sunday supplements, cooperation with realtors, billboards and radio have all combined to reduce conversions to gas in the Metropolitan Chicago area 52% in the last six months.

Fred Burroughs, NFC secretary, presided over the first of the special panel programs. This was a discussion of petro-chemicals and how they might help oilheating dealers gain more of the new home market.

To provide a background of the new home market, Bayne Sparks, *American Builder,* pointed out that homebuilding represented the largest share of the nation's economy. Today 78% of the homes are built by the speculative builder and this is the market where oilheating has had its fewest successes.

Sparks said the economy was now between the postwar boom and the 1965 boom so that builders must sell as they have never sold before. They need market research, a low cost house and new products that will provide more maintenance-free living.

Giving the architect's view was Herman York, who is associated with Levitt. He said the fueloil industry must sell adequate heating. It must upgrade its product while selling.

As part of an integrated selling job the first Petro-magic home was described by George Bohlen, Narga, Inc., Nick Cippolina, Long Island Builder, and Dave Sullivan, Petro. This home is being built on Long Island and besides being equipped with oil heat has been designed for lower and easier maintenance by the wide use of petrochemicals.

A report on the NFC communications program had Ralph Hartell, communications director, showing the achievements of his department during the past year. During this period regular publicity had an increased use by newspapers, the individual markets stepped up their use of NFC-prepared releases as did the refiners. New consumer materials were circulated.

But it is in an individual situation that public relations can do a job, and describing two such projects were A. J. Becker, St. Louis, and Len Braun, Long Island.

Becker described how NFC had helped in preparing a presentation for the Association of School Business Officials of the U. S. and Canada. This story was covered in detail in the November '60 issue of FUELOIL & OIL HEAT.

Special Problem

As background, Braun showed what the Metropolitan New York market faces in the way of competition: three strong utilities with budgets for advertising totaling over $6 million as against $400,000 spent in the cooperative programs for oilheating.

The Long Island group began to run some hard hitting, anti-utility ads among them the famous "Octopus" ad. Braun put it: "It not only hit the fan, it broke it." Complaints were registered by the utilities, by NFC and by the Better Business Bureau.

The oil men countered that the utilities were guilty of misleading and destructive advertising, and a meeting was called to explore the question. Representatives of the Better Business Bureaus, the local oil associations, and the gas utilities finally evolved an agreement for a standard code that would improve advertising in the area.

Three speakers were on the final panel which was a discussion of research and new products. Jim Livingstone, Gulf and chairman, API Technical Advisory Committee, said that the API research project had evolved because of an awareness that equipment manufacturers can't undertake all research.

He assured the group that the program is adequate and will grow; that there is enough money to do the job laid out. However, the aim is not to develop a burner to end all burners because we need competition among manufacturers. Those manufacturers open to new ideas will benefit most from the program.

Livingstone said that the research program is not unmindful of present markets which must be maintained and up-graded. These markets will not be lost through default.

New fueloil Uses

A rundown on new uses for fueloil was given by Bob Weeks, Esso. First he discussed what could be done to make the oilburner more competitive. He suggested that research will be concentrated on making the burner lower in cost; more efficient; more reliable—a simpler fool-proof, service-free unit; with firing rate flexibility; taking less space and operating more quietly.

To expand fueloil consumption he mentioned the snow melter; the oil-fired absorption unit; farm uses such as the crop dryer, and a soil sterilization unit and recreational uses: i.e. swimming pools and camping equipment. He warned that the one market concept must go and that new research will lead to larger sales.

The final speaker was W. K. Lombard, Thermal Research & Engineering Corp., who pointed out that the principle used in snow melting, that of submerged combustion, resulted in an efficiency close to 100%. These snow melters can handle snow at about a third of the cost of trucking it away. They use approximately two gallons of No. 2 oil per ton of snow, and range in price from $7,500 for the 25 ton per hour unit to $30-35,000 for the fully mobile equipment that will handle 75 tons.

APRIL 23-27

OHI Convention meets in Washington, D. C.

FINAL PROGRAM PLANS have been completed for the 36th annual convention of the Oil-Heat Institute of America, which will take place April 23 through 27 at the Statler Hilton Hotel, Washington, D. C.

Chairman of the Convention, Francis Schuster, Troy Oil Co., Indianapolis, Ind., has announced a complete schedule of Institute meetings, plus symposiums and dealer management clinics.

Of first importance, Schuster reminds those who intend to go to the convention that the Institute is accepting advance registrations. These save time as well as money, inasmuch as the advance registration fee is $5 and registration at the convention will cost $6. The Institute will mail badges, required for admission to convention sessions, to those who send in $5 in advance to Oil-Heat Institute, 500 Fifth Ave., New York 36, N. Y.

Next, hotel reservations at the Statler Hilton, Washington, D. C., should be made directly with the hotel. Reservations as far in advance as possible are recommended and they should be accompanied by the information that the hotel stay is in connection with OHI's annual convention.

Schuster described the Convention program as packed full of beneficial information for dealers, distributors and jobbers on ways to increase the efficiency of their businesses. As competition with other fuels intensifies, he said, it will be necessary to increase the operating efficiency of fueloil companies to maintain profit ratios.

OHI officers from left to right are Larry D. Sibley, Stanley Czarnecki, Al Loucks, Fred Heaney, T. R. Loizeaux, and Gabe M. Marin.

The convention has been designed to acquaint fueloil people with methods that will help them solve competitive problems.

Opening the convention on Monday, April 24—following Institute housekeeping meetings on April 23—will be a program of Association general business meetings. These will include annual meetings of the Distribution Division, Manufacturers Division and Technical Division. Also, the Institute itself will conduct its annual meeting at 11:15 A.M.

The Technical Division Symposium on Tuesday, April 25, will feature three papers. M. J. Reed, Mobil Oil, chairman of the Division will preside, while Ted Kaufman, Petro, will moderate the session and introduce the speakers.

The topics to be covered will be: "Burner Service makes the Difference"; "Review of Projects and Activities of the Technical Division"; "Fueloil specification Changes and their practical Meaning to the Manufacturers and Dealers."

The Commercial-Industrial Associates will sponsor three special programs for architects, engineers, builders and equipment people on commercial-industrial oilburning applications. The sessions will get underway at 10:00 A.M. on April 24, 25 and 26.

Other special meetings will be held for Distribution Division Chapter secretaries, where participants will exchange information about local Chapter activities.

For the ladies who will be in attendance, the convention committee has arranged a special program and tour on Monday, Tuesday and Wednesday, April 24, 25 and 26.

Wednesday and Thursday, April 26 and 27, will be the two days of most interest to fueloil and oilheating people. On the morning of both days dealer-management clinics will take place, designed to present case history type of presentations, wherein speakers will offer practical guidance to industry problems based upon their own experiences.

Schuster

Elliott

Kaufman

Old Timers Reunion

Tuesday evening, April 25 is the date and 6:00 P.M. is the time for the Silver Anniversary Reunion of the Old Timers' Club of the Oilburner Industry; the place is the Cotillion Room of the Presidential Arms Hotel, Washington, D. C.

This stag dinner open to members only will mark the 25th anniversary of the founding of the Club. National Chairman Charles Bendix in his announcement warned that commitments for the dinner were made so late that available space somewhat limits the number that can be accommodated.

So, he urges early reservations. Make them through Charles Bendix, 6809 Elizabeth Ave., Chicago 36, Ill. Tickets are priced at $15.

Program

39TH ANNUAL CONVENTION

OIL HEAT INSTITUTE OF AMERICA, INC.

April 23-27, 1961

Statler Hilton Hotel, Washington, D.C.

SUNDAY, APRIL 23

Day and Evening—Oil-Heat Institute Business Office—Silver Room
3:00-4:00 P.M.—Meeting of Officers—President's Suite
4:00-5:00 P.M.—Public Relations Committee Meeting — Secretary's Suite
5:00-6:00 P.M.—Education Committee Meeting—Secretary's Suite

MONDAY, APRIL 24

Day and Evening—Oil-Heat Institute Business Office—Silver Room
9:00-9:45 A.M.—Distribution Division Retiring Board Meeting—Ohio Room
9:45-10:50 A.M.—Distribution Division Annual Meeting—Ohio Room
9:45-10:50 A.M.—Manufacturer Division Annual Meeting—Pan American Room
9:45-10:45 A.M.—Technical Division Annual Meeting—Massachusetts Room
10:00 A.M. (Assemble)—Special Ladies Program & Tour, Joan Lang, Chairwoman—Silver Room
10:00-12:00 Noon—Commercial-Industrial Associates Meeting—Continental Room
11:00-11:15 A.M.—OHI of America Retiring Board Meeting—Pan American Room
11:15-12:15 P.M.—OHI of America Annual Meeting—South American Room
12:30-2:30 P.M.—New OHI Executive Committee Reception and Luncheon (closed meeting)—Pan American Room
2:00-3:00 P.M.—Domestic Manufacturer Section Meeting—Continental Room
6:00-9:00 P.M.—New OHI Board Meeting, Reception and Dinner (closed meeting)—Pan American Room

TUESDAY, APRIL 25

Day and Evening—Oil-Heat Institute Business Office—Silver Room
9:30-12:00 Noon—Distribution Division New Board Meeting—Ohio Room
9:30-12:00 Noon—Technical Division Symposium—Congressional Room
Chairman Technical Division, *M. J. Reed, Mobil Oil Company.*
Introduction of Speakers, Symposium Moderator—*Ted Kaufman, Petro Division, Iron Fireman Mfg. Company, Cleveland, Ohio.*

Topics

Burner Service makes the Difference—*Frank Dunn, Atlantic Refining Company.*
Review of Projects and Activities of the Technical Division—*M. J. Reed, Mobil Oil Company.*
Fueloil Specification Changes and their practical Meaning to the Manufacturers and Dealers—*Dick Wright, Iron Fireman Mfg. Company.*
10:00-12:00 Noon—Commercial-Industrial Associates Meeting—New York Room
10:00 A.M. (Assemble)—Special Ladies Program & Tour, Joan Lang, Chairwoman—Silver Room
6:00-10:00 P.M.—Silver Anniversary "Old Timers" Reunion Dinner—Cotillion Room—Presidential Arms Hotel.
Paul B. Holmes—Arrangements
Committee Chairman. Charles Bendix—National Chairman "Old Timers."

WEDNESDAY, APRIL 26

Day and Evening—Oil-Heat Institute Business Office—Silver Room
First Distribution Division Dealer-Distributor-Jobber Management Clinic, Presidential Ballroom—Statler Hilton Hotel.
9:10 A.M.—Introduction of Clinic Moderator and Opening Remarks—*Fred Heaney, President, Oil-Heat Institute of America, Inc., President, Skaggs-Walsh, Inc., Long Island City, N. Y.*
9:15 A.M.—Clinic Moderator—*Everett Elliott, National Chairman Distribution Division, President, C. L. Elliott Company, Danvers, Massachusetts.*

Topics

9:20-12:00 Noon—The Oilheating Industry faces up to electric Heating as a Competitor. *Dick Wright, Vice President, Iron Fireman Manufacturing Company, Cleveland, Ohio.*
Premium Billing—How we did It and its Effect on our Business. *Richard Morgan, President, Nassau Oil Company, Princeton, New Jersey.*
Use of low cost computer pre-programmed Systems to handle repetitive paper and retrieval Problems of fueloil Dealers. *Joseph J. Karp, Applications Engineering, Lockheed Electronics Company, Metuchen, New Jersey.*
Question and Answer Period.
Developing the fully integrated Business—Bulk Plant, Fueloil, Gasoline; wholesale and retail Heating Oil; Selling, Installation, and Servicing of Equipment. *Joseph Berry, Secretary and General Manager, Berry Coal & Oil Company, Greensboro, North Carolina.*
Your Future—The oilfired water heater equipment Market. *Murray Green, Vice President—Engineering, Trageser Copper Works, Jamaica, New York.*
Management Attitudes will double the Volume of your service Income and service Contracts. *Robert Fawcett, President, Robert Fawcett & Son, Cambridge, Massachusetts.*
How the Pacific Northwest Builder subsidy Program works. *Loren Pearce, President, Pearce Burner Oil Company, Seatile, Washington.*
Question and Answer Period.
10:00 A.M. (Assemble)—Special Ladies Program & Tour, Joan Lang, Chairwoman—Silver Room
10:00-12:00 Noon—Commercial-Industrial Associates Meeting—Ohio Room
12:15-1:15 P.M.—Officers and Directors Reception (closed)—Pan American Room
1:15-3:15 P.M.—Grand Convention Luncheon—Presidential Ballroom
3:15-4:15 P.M.—Commercial-Industrial Section Annual Meeting—Michigan Room
3:30-5:30 P.M.—Trade Publications Editors Conference—Massachusetts Room
4:15-5:15 P.M.—Commercial-Industrial Associates Annual Meeting—New York Room
6:00-9:00 P.M.—Reception and Dinner, Chapter Secretaries—California Room

THURSDAY, APRIL 27

Day and Evening—Oil-Heat Institute Business Office—Silver Room
Second Distribution Dealer-Distributor-Jobber Management Clinic—Presidential Ballroom—Statler Hilton Hotel.
9:10 A.M.—Introduction of Clinic Moderator and Opening Remarks—*Fred Heaney.*
9:15 A.M.—Clinic Moderator—*Francis Schuster, Vice President, Troy Oil Company, Indianapolis, Indiana.*
9:20-12 Noon—Future technical Problems facing the Dealer, Distributor and Jobber, *M. J. Reed, Mobil Oil Company, New York, New York.*
What the human Side of Business means to your trucking Maintenance, Switchboard, Credit and Service—your public relations Outlets. *William A. Flubr, President, W. A. Flubr, Inc. Red Bank, New Jersey.*
Minutes mean Money—Oil handling Equipment and its Place in the dealer's Operation. *Gil Hiett, Vice President, Gorman-Rupp Company, Cleveland, Ohio.*
Question and Answer Period.
Management Attitudes affect your Personnel and the Efficiency and Productivity of your Business. *Kenneth Gifford, President, Wadleigh's, Inc., Augusta, Maine.*
The new low temperature Vent for Oilburners and what It means to your equipment Business. *Chet Blome, Assistant to the President, Metalbestos Division, William Wallace Company, Dallas, Texas.*
This Is your Life—A fueloil dealer's Life, is It a happy One? *Al Loucks, Executive Vice President, Home Oil Company, Salem, Oregon.*
The Mystery—his Topic and Talk will astound You. *Bill Briggs, President, Valley Oil Company, Middletown, Connecticut.*
Question and Answer Period.

Added Value Homes Parade to follow builder Seminar

THE OIL HEAT INSTITUTE of Washington recently took 150 builders, architects and realtors to Yakima, Wash., for a seminar to acquaint them with the advantages of oil heat. Held at the modern Chinook Hotel, the seminar was a forerunner of the "Added Value Homes" parade to take place in the chapter area during April.

The added value new home promotion kit was presented to the group by advertising executive Rufus Carlson, in the picture bottom left. The materials shown in the picture comprise the contents of one kit, 300 of which will be distributed during the April parade. Each one stresses the added value of modern oil heat.

In the picture at the upper right, the assembled dinner guests at the seminar witness a preview showing of the OHI's new sales promotion program, which will feature the parade of "Added Value Homes" in 17 counties in Washington this Spring. The "Oil Heat adds Value" backdrop is a reproduction of a current billboard.

And, finally, lower right, Carl Mitnick, past-president of the National Home Builders Association, addresses the seminar to stress the need for the home building industry to sell hard.

The seminar also had a morning panel-discussion, where a leading builder, realtor, architect and oilheating equipment installer talked before the session was opened for general questions and comments from the floor.

API Research Subcommittee holds first Distillate Conference

THE RESEARCH subcommittee of the API Fueloil Committee, Marketing Division, held its first general conference on distillate fuel combustion at Chicago on March 14 and 15. Present were about 150 engineers, scientists and oilheating equipment manufacturers, with the group divided about evenly between manufacturers and oil company men.

The purpose of the two-day conference was to bring to manufacturers of oilheating equipment an insight into what's being done for the benefit of oilheating by several of the major oil company laboratories and to tell them of the research projects about to be launched in outside contract laboratories.

Chairman of the Research Subcommittee, J. L. Minner, Shell Oil Co., opened the conference, pointing out that this is a milestone in industry cooperation. The petroleum industry, in his view, is dead serious about the fight ahead for the heating fuel market, and is making one very significant approach through research.

Next, V. A. Bellman, API vice president for marketing, also director and vice-president, Mobil Oil Co., said that the most enduring characteristic of a free economy is steady growth, and this growth is always accompanied by change. The research program in its first year will invest over a million dollars, he noted, and "this is only a beginning." He forecast distillate heating oil growth of 1.3% a year in this decade, and said that equipment installations will average 490,000 a year.

A. J. Becker, St. Louis, chairman of the API Fueloil Committee, then gave the group considerable background of the Institute and the many avenues through which it helps oil marketers. He noted that the Fueloil Committee was responsible for the launching of Oilheating Market Reports, which eventually grew into the National Fueloil Council to sponsor and support advertising campaigns for oil heat in amounts of several million dollars. He also told the group that the initiative for the pending merger of NFC and OHI to form the new National Oil Fuel Institute came through a subcommittee of the Fueloil Committee.

Tom Scott, Buckley & Scott, Watertown, Mass., observed next that never since "John D." gave away lamps has the oil industry taken so much interest in equipment. He described some of the work of individual laboratories, told about Operation Oil Heat Associates, wherein a group of key dealers are financing independent research toward a new low-cost burner. He told the group that where the NFC campaigns have run, oil heat growth is taking place. Scott forecast for the coming ten years new home sales of oil heat at 200,000 a year, replacements at about that same rate and conversions from other fuels, including gas, at 100,000 a year, total a half million a year.

Werly meets Group

Glenn Werly, who is to be the president of the new National Oil Fuel Institute, was introduced and spoke briefly from the floor. He said that in any industry it is only during periods of stress and strain that real progress has been made. He noted that he hadn't agreed to tackle the new job to observe the industry's early liquidation.

J. H. Heldman, Shell Oil Co., and representing the Research Committee of the API Board, showed that this year 12 billion dollars is being spent on research in the United States, which is equal to 2% of Gross National Product, and that by 1970 it is expected to be 30 billion dollars.

He discussed fundamental as contrasted to applied research, and then introduced a third type, which he called "exploratory" research or the Edison method of cut-and-try, showing that this is quite common in industrial laboratories, due to the proprietary value of the results.

C. J. Livingston, Gulf Oil Co., and chairman of the Technical Advisory Group to the Research Subcommittee, described for the benefit of the manufacturers present the background and development of the API program and its probable benefits to them. He showed that the work is to be done only in fields where manufacturers will not be working; it's not to develop burners as such, but rather individual manufacturers are free to adapt and exploit the findings to their own equipment developments. The manufacturers will not be asked for any financial support.

D. W. Locklin, Research Consultant to the API Fueloil Committee and coordinator of the programs in the several laboratories, next told the group of the plans now being finalized for 1961. In addition to seven specific projects in oil company laboratories, there are five others which have been assigned to industry committees for supervision of work to be done in outside contract laboratories. These were described by the chairmen of the groups. These projects are:

Contract Laboratory Projects

1) Effects of Spray Droplet Size on Combustion, chairman, R. L. Weeks, Esso Research & Engineering Co.

2) New Means for Fuel Atomization, chairman, J. J. Donnelly, Socony Mobil Oil Co.

3) Vaporization of No. 2 Heating Oil, chairman, F. W. Rakowsky, American Oil Co.

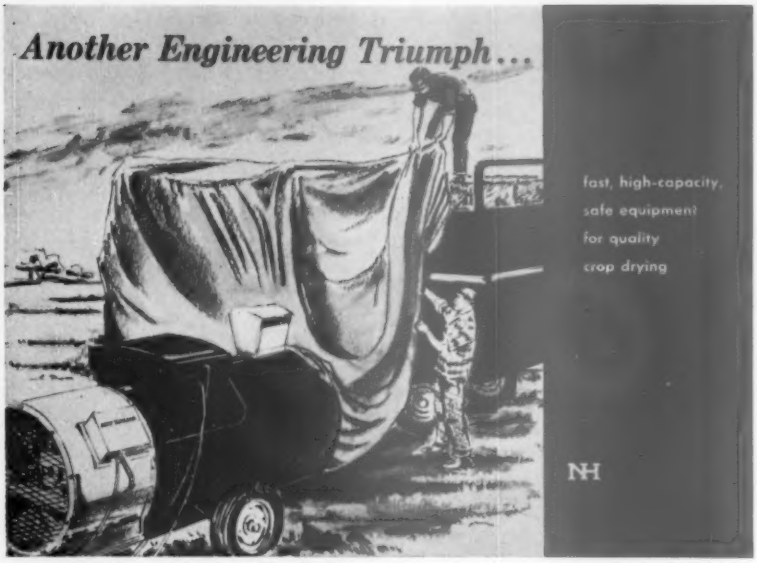
4) Air-Fuel Mixing and Recirculation, chairman, R. W. Sage, Esso Research & Engineering Co.

5) Ignition Systems and Air-Oil Systems for Small Burners, chairman, B. R. Walsh, Gulf Research & Development Co.

A. J. Rumoshosky, director of the API Marketing Division, stressed that wide distribution will be made of all research findings. "The resources and manpower of the oil industry are being pooled to develop information to help you produce radically improved equipment," he said.

He urged cooperative communication between the oil industry and the equipment industry "that will assure research results being translated into practical and marketable equipment." He noted that a mailing list is being compiled for distribution of material and announcements of future conferences.

(*Please turn to page* 82)



Farmers could use More

It's far cheaper to keep Livestock warm with Oil than with Grain

by G. W. Flint*

THE AGRICULTURAL INDUSTRY has been one of the prime users of petroleum products. However, many oilburner manufacturers appear to have overlooked the agricultural market in their preoccupation with the home heating market. Equipment has often been poorly adapted rather than designed for agricultural uses. In the years ahead much more energy and new combustion equipment will probably be required on our farms. It might be well to steer this demand toward the use of distillate fuels because in the long run, they should be cheaper and safer to use.

This discussion covers a preliminary study of the subject since only a part of the overall agricultural economy was considered, mainly that of the Midwest. Conferences on agricultural uses of distillate fuels were held at three Midwest agricultural colleges, the use of energy in drying one major crop outside the Midwest areas was studied, and the 1960 USDA yearbook "Power to Produce" was reviewed.

The scope of this study was purposely limited. In general, the search was confined to new uses for distillate fuels, such uses being either real or visionary. The fuel requirements for heating of farm homes and for powering tractors and other farm motive equipment were viewed as firmly established and were not considered in the study. With one exception, calculation of the new energy requirements on a quantity basis was not attempted.

Two large areas will require increasing amounts of energy in the years immediately ahead. These are crop drying and environment control. The latter refers to year-round comfort comprising both heating and airconditioning. The farm has additional uses for the cooling aspect of airconditioning. The farm can also use lower cost water heating.

Crop Drying

Of the large number of possible new uses of distillate fuels, crop drying is undoubtedly the farthest advanced. For some uses it cannot be truly called new. For example, drying or curing of tobacco is an old established practice. In the Midwest, the volume of corn put through driers is increasing rapidly year by year and drying of other crops is under study.

Curing is one of the most important steps in tobacco production. It is either flue-cured or air-cured. In flue-curing, the tobacco leaves are hung on sticks in a curing barn and after an initial period of one to two days to permit the leaves to yellow, the tobacco is cured rapidly by heating to a temperature of 145°F. to 160°F. The total process requires seven to eight days. As other leaves mature, the process is repeated. A barn is often filled six to eight times a season. Traditionally, heat is supplied to the barn by flues running peripherally around the barn and exhausting through a chimney. These flues can be fired with any fuel—coal, coke, oil, wood, or gas. Since the products of combustion from the gaseous fuels do not impart an odor or soot to the tobacco, the air in the barns can also be heated directly, by using an extensive pattern of small burners fired with either LP or natural gas.

The loss of efficiency when firing fueloil into flues makes it roughly equivalent in effective Btu content to LPG fired directly. At present approximately 300,000 flue curing barns consume the equivalent of 1,000 gallons of petroleum product per barn per curing season. The potential annual market is thus 7,150,000 barrels of fueloil. Although fueloil is supplying two-thirds of this market, LPG appears to be replacing wood, coal, or oil at the rate of 7,500 installations per year.

Air curing is done at low temperatures in large barns designed to provide free air circulation. In air curing, the entire tobacco plant is first hung on sticks, which in turn are hung in the barn. If atmospheric conditions are right, the entire curing process can

*Research & Development Dept., American Oil Co., Whiting, Ind. This is a slightly condensed version of a paper "Potential Uses of Distillate Fuels in Agriculture" presented to the API Research Conference on Distillate Fuel Combustion, 1961.

take place without the addition of heat. Curing generally is completed in about 30 to 40 days. In periods of high humidity, heat is added to dry the air and to establish good air circulation. In an average curing season, heat is required only about seven or eight days; in extremely wet years, heat may be required for 15 to 20 days.

Since heat is used intermittently the amount of fuel used in air curing can not be very closely estimated. At present very little oil is used in air-curing. Coke is the more popular fuel, with LPG gaining rapidly. The best estimate available indicates that the equivalent of approximately 1,250,000 barrels of fueloil are used annually in the air-curing barns. For optimum curing, heat might be used regularly and consume roughly the equivalent of 4,760,000 barrels of fuel per year.

Need Tobacco Equipment

Although oil will probably continue to retain the market it already has in flue curing, there is little chance that it will expand unless new equipment is made available. The simplicity and low cost of LPG burners give them an advantage over current oilburning equipment.

Perhaps the biggest potential new use for distillate fuel is in the drying of corn. When corn appears to be ripe and ready for picking, it may still contain as much as 35% moisture. Practice has been to pick the corn when it still has a high moisture content and to place the picked ear corn in cribs, where natural air circulation completes the drying. The corn can not be safely stored as shelled grain until the moisture is about 15%. To harvest with the new picker which shells the corn in the field, either natural field drying to this moisture content or artificial drying after harvesting is necessary. Natural drying in the field is slow and necessitates a late harvest. Field losses from the shattering of dry grain are high and bad harvesting conditions are often encountered late in the season. For these reasons, artificial drying of the crop will increase as the use of the picker-sheller expands.

The earliest attempts at drying were by forced-air circulation through the storage bin. Heated air is now used. It may still be forced through the storage bin, but drying is usually carried out in specially designed equipment. The grain may be stationary in the drier or it may be slowly circulated. The optimum depth of grain for fast drying appears to be in the range of 12 to 24 inches. To prevent losses in quality, the maximum drying temperature must be controlled. Corn used in feed grain must be kept at a temperature below 200°F., the milling or processing grain below 140°F., and seed grain below 120°F.

Approximately 1100 Btu are required to reduce the moisture content of a bushel of corn from 28% to 15%. Stated another way, about 10 gallons of fuel are required to dry the corn produced on one acre. Since this is roughly equivalent to the fuel required by tractors to produce the crop from plowing to harvesting, a large market for fuel in the corn drying area is apparent.

Some corn driers are fired with distillate fuel, but the majority of driers use LPG. When burned directly, distillate fuels sometimes give soot formation and impart odors to the moist grain. Soot mars the appearance and palatability of the grain. It is, therefore, necessary to use an indirect heating system which reduces efficiency to approximately 80% and places the distillate fuel and LPG on an equivalent Btu per gallon basis.

Besides corn, other grain crops that might be dried are rice, barley, wheat and peanuts. The techniques for drying these crops will be somewhat different from those used for corn and have not been fully developed. Most likely, both the amount of energy per acre and the overall energy required for these crops will be somewhat less than for corn.

Faster Drying for Hay

The common practice of drying hay in the field to the desired low moisture content seldom gives the highest-grade product. Controlled drying should upgrade both the nutritive and the monetary value of this crop. Since moisture content must be reduced from 40% down to 15% at a relatively low air temperature the process is more difficult and the drying period is longer than for most crops. Drying of bulk hay is somewhat cumbersome, so most of the engineers are considering the drying of pellets. This is another crop which will require a large amount of energy for the drying process.

Environment Control

Another new agricultural use for fuel with a very high potential volume is environment control. Both heating and air conditioning are required for year-round comfort and both can be supplied by distillate fuel. Furthermore, the cooling aspect of air conditioning has additional applications.

Winter comfort in the farm home is being supplemented rapidly with summer comfort. Electricity is the primary source of energy for the airconditioners and refrigerators. Because electricity is relatively expensive in most rural areas, refrigerating systems based on the lower cost distillate fuels should be attractive.

The use of airconditioning in barns and chicken houses sounds somewhat ridiculous, however, agricultural colleges are finding that the control of animal comfort permits better utilization of feed and helps smooth out the seasonal supply of meat and animal products. For maximum gains in weight, it pays to cool the habitat of animals and fowl during the summer. Otherwise, the animals use too much energy to stay cool. Airconditioning will eliminate the deaths of swine and poultry which often results from excessive summer heat. Future research may show that atmospheric pressure and composition of air should be controlled also.

The cost of supply heat to animals and fowl by feed exceeds that of supplying it by burning hydrocarbon fuels; the ratio may be as high as 5 to 1. Currently, some heat is used for animal comfort during the winter. Several new schemes are under consideration, such as heating slabs in animal lots and barns, and floor heating in milking barns. Heating of poultry houses shows the greatest promise since poultry consume large quantities of food to keep warm and egg-laying drops markedly in cold weather.

The use of fuels for environment control is still in its infancy but is like-

ly to grow rapidly as more and more farmers find out how valuable environment control can be. When year-round comfort control for farm animals reaches its peak, the fuel requirements of this use will likely exceed the fuel requirements of the farm home. With the development of a satisfactory refrigeration system powered by distillate fuel, this source of energy could be put to year-round use in environment control.

Other farm uses for refrigeration are seed storage, egg storage, fruit processing, and fruit storage. One of the most interesting of the developments in these areas is the AC (atmosphere control) system being used for storing apples. This process combines cooling with control of carbon dioxide and oxygen in the storage atmosphere. Similar processes are being investigated for storage of other fruit.

Another interesting possible use for cooling is to preserve high moisture feed grains. They could be harvested and stored under cool conditions if a satisfactory economical refrigeration system were available. The necessity of drying would be eliminated. Natural climatic conditions are not sufficiently reliable to allow this method of storing grain. Refrigeration would be required both for initial cooling and supplemental cooling during warm winter periods.

Water Heating

Water heating is a low-volume use for fuel in the agricultural area. Currently many farm homes heat water with electricity, which is expensive. For the small water heaters, a burner is needed which will operate at rates in the neighborhood of a quart of oil per hour. For large installations, such as dairies, burners are now available; if electricity is being used for this purpose, it is largely because the oilheating industry has failed to sell its product.

Most livestock watering tanks are heated by electricity or LPG. The relative installation costs are approximately $15 and $95. Both are thermostatically controlled. An oil installation of the pot-type burner costs about $35, but is not thermostatically controlled. Since oil is sent to the burner continuously, the actual fuel cost is higher than for electricity or LPG. Electrical installations are practical only in small tanks. Oil or LPG are required to keep large tanks free from ice.

Oils are used in flame throwers to control weeds. About 35,000 small flame thrower units are sold each year at an average price of $21.80. Approximately 90% of the units are used in the agricultural area and the life of each unit is considered to be 5 to 6 years. They burn one gallon of kerosene or No. 1 fueloil an hour and are used on the average of 35 hours per year. In addition to flaming for weed control, these burners are also suggested for removing paint, melting ice, disinfecting and burning garbage.

Meeting the Competition

The fuels used in the agricultural areas differ slightly from those in the large urban areas. Whereas the fuel-conflict in urban areas is largely between oil and natural gas, the conflict in the agricultural area is primarily between oil and LP gas.

As fuels, the distillates have several advantages over LPG. Even when indirect heat is required, the distillate fuels can compete on a Btu basis. They generally hold a slight advantage in cost, and are easier to handle and safer to use. Yet LPG is winning the battle in the agricultural area by a considerable margin. There can be only one reason for the general preference for LPG. That is equipment. The burners used in corn drying illustrate the problem.

LPG holds the top position in the grain drying area because the burners employed are simple in design, low in cost, and easy to maintain. Farmers appear willing to maintain simple gas burners but hesitate to repair the more-complex distillate burners. Another factor favoring the gas burner is the ease of varying heat output. The heat should be decreased in the final stages of crop drying. This is almost impossible with the current distillate burners. It is also easy with the gas fired burners to change the nozzles when large changes in rate of heating are required. With oilburning equipment now available, this change is too complex for the farmer to make since other burner adjustments must also be made. Briefly stated, this means that improvements in burners will be necessary before distillate fuels can be expected to provide a substantial amount of the energy required in drying crops.

The new distillate fuel equipment which appears to be needed in the agricultural area comprises the following:

1. A low-rate, low-cost, thermostatically controlled oil fired unit burning in the range of ¼ to 1/3 gallon per hour.

2. A variable rate, low cost oil-fired unit—simple to maintain—that burns clean at rates between approximately 150,000 and 800,000 Btu per hour output.

3. A low cost, efficient, safe, and reliable oil fired unit for heating animal housing.

4. A reliable and low cost oil fired refrigerating system.

In summary this investigation indicates that there is a present and growing market for oilburning equipment in the agricultural area. The cooperative research program should give some of the necessary background for development of equipment which will make distillate fuels competitive with LPG.

Minnesota Survey shows Oil to be most popular

THE USE of warm air Heating in Minnesota households decreased from 77.8% in 1958 to 73.1% in 1960 the *Minneapolis Star and Tribune's* Continuing Survey of Living reports.

Other home heating information in the Minnesota survey shows that hot water heat in households has increased in use from 1958 to 1960 from 16.0% to 19.6%. In towns under 2,500 population and on farms, 81.2% have warm air heat, while 67.7% of the households in towns and cities larger than 2,500 use warm air for heating.

Oil, the fuel most often used for heating in the state, is used by 41.8% of Minnesota households. Gas is used in 40.2% of the homes, followed by coal, 8.3%; bottled gas, 7.2%; and wood, 5.2%. In Minneapolis, however, 77.6% of the households use gas, while 16.0% use oil and 3.7% use coal.

1960 Installations were 488,551

THE FINAL estimates of oilheating installations for 1960 show 488,551 or 5% lower than the preliminary estimate of 516,863 published in our January issue.

It has become increasingly difficult in late years to estimate the short-range installation data since this is based primarily on dealer reports from the field. The reporting dealers are mostly of the combination oil and heating type, the group that has been selling an ever-larger percentage of the total market, so we tend to be on the upside, to a modest degree.

The final estimate is based on factory shipments of 498,614, from which are deducted exports of 20,594 followed by adding 10,531 as an adjustment to stock levels in dealer hands.

As in former years, no allowance is made for stock changes at other industry levels since we have no access to data for boiler or furnace factories nor wholesale supply houses. In considering only the original manufacturer and the final installer we recognize that intermediate stock changes will wash out over a period of time.

All sections of the country except the Midwest showed net gains in users of oilheating . . . the Midwest dropping by about one percent. It remains, however, the second most important of our customary geographic divisions.

New England and the South Atlantic areas showed the best gains, quite probably because they have had the strongest cooperative advertising campaigns for the size of their markets.

The most important application group was in replacements of old oilheating equipment, good for the manufacturers but not adding to the roster of oil customers.

New homes were hard hit, partly because new home building was inclined to favor the South and West where other fuels are traditionally stronger.

Equipment by Application

	INSTALLATIONS		
	New Homes	*Replacements*	*Conversions*
1955	376,199	119,983	313,123
1956	304,243	141,838	263,111
1957	224,445	151,256	204,746
1958	186,385	173,652	208,281
1959	212,407	204,776	218,768
1960	149,008	198,352	141,191

Relative Importance of Areas

	Jan. 1 1958	*Jan. 1 1959*	*Jan. 1 1960*	*Jan. 1 1961*
New Eng.	16.7%	16.8%	17.0%	17.3%
Mid-Atl.	39.4	39.1	39.0	39.2
So. Atl.	6.0	6.2	6.4	6.7
Midwest	27.8	27.9	27.7	27.0
So. Cent.	1.3	1.3	1.3	1.3
Mountain	1.2	1.2	1.2	1.2
Pac. N.W.	7.6	7.5	7.4	7.3

Distillate oilburner Installations by States, 1960

	Burners in Use 1/1/60	INSTALLATIONS *New Homes*	*Replacements*	*Conversions*	*Total*	*Lost to Other Fuels*	*Burners in Use 1/1/61*
Maine	123,355	1,565	3,944	3,392	8,901	614	127,698
New Hampshire	116,581	1,398	3,395	2,869	7,662	407	120,441
Vermont	34,514	219	1,248	1,350	2,817	234	35,849
Massachusetts	852,694	14,532	25,064	16,966	56,562	4,438	879,754
Rhode Island	124,740	3,480	3,795	1,288	8,563	727	128,781
Connecticut	389,773	7,326	12,483	8,361	28,170	2,230	403,230
NEW ENGLAND	1,641,657	28,520	49,929	34,226	112,675	8,650	1,695,753
New York	1,573,126	15,873	18,396	14,270	48,539	8,675	1,594,594
New Jersey	846,065	9,949	14,322	13,518	37,789	5,361	864,171
Pennsylvania	870,145	13,140	22,532	23,780	59,452	4,200	902,865
Delaware	66,231	638	1,111	1,183	2,932	296	67,756
Maryland	312,345	2,188	3,951	4,286	10,425	2,259	316,560
Dist. of Columbia	92,548	724	1,421	1,601	3,746	317	94,556
MID-ATLANTIC	3,760,460	42,512	61,733	58,638	162,883	21,108	3,840,502
Virginia	225,937	12,167	7,031	1,499	20,697	1,012	238,591
West Virginia	8,096	396	370	343	1,109	40	8,795
North Carolina	221,030	7,805	9,423	5,024	22,252	966	232,893
South Carolina	49,948	1,627	2,930	3,286	7,843	408	54,453
Georgia	29,419	2,182	1,010	136	3,328	147	31,590
Florida	79,749	8,833	1,006	187	10,026	319	88,450
SOUTH ATLANTIC	614,179	33,010	21,770	10,475	65,255	2,892	654,772
Michigan	497,766	4,070	4,767	2,121	10,958	14,870	489,087
Ohio	235,410	7,653	7,898	2,605	18,156	9,456	236,212
Indiana	219,321	2,282	5,421	4,759	12,462	10,658	215,704
Illinois	530,296	4,360	7,758	5,716	17,834	21,230	519,142
Wisconsin	342,832	4,497	7,243	4,912	16,652	10,658	341,583
Minnesota	329,751	2,004	4,954	4,430	11,388	6,189	329,996
Iowa	177,376	987	3,131	3,080	7,198	5,501	175,942
Missouri	146,214	2,436	2,383	660	5,479	3,868	145,442
Kansas	22,362	456	374	29	859	945	21,902
Nebraska	73,459	925	888	228	2,041	1,289	73,323
South Dakota	44,333	216	654	634	1,504	689	44,494
North Dakota	50,238	947	1,261	693	2,901	600	51,278
MIDWEST	2,669,358	30,833	46,732	29,867	107,432	85,953	2,644,105
Kentucky	22,036	944	1,610	515	3,069	110	23,385
Tennessee	26,082	626	721	483	1,830	46	27,145
Alabama	13,030	331	239	37	607	27	13,371
Mississippi	2,922	58	62	36	156	2	3,014
Arkansas	4,134	95	91	44	230	2	4,271
Louisiana	15,092	168	297	290	755	61	15,489
Oklahoma	4,454	140	94	4	238	10	4,588
Texas	41,194	1,020	120	183	1,323	170	42,227
SOUTH CENTRAL	128,944	3,382	3,234	1,592	8,208	428	133,490
Montana	12,279	157	301	119	577	249	12,306
Idaho	26,847	598	686	30	1,314	593	26,882
Wyoming	6,040	51	147	84	282	75	6,100
Colorado	16,759	295	340	16	651	395	16,675
Utah	20,464	408	830	353	1,591	211	21,014
Nevada	15,572	190	295	81	566	58	15,785
New Mexico	3,678	108	138	19	265	37	3,768
Arizona	16,259	211	272	36	519	122	16,384
MOUNTAIN STATES	117,898	2,018	3,009	738	5,765	1,740	118,914
Washington	308,644	4,808	8,414	4,473	17,695	3,985	313,940
Oregon	175,516	2,061	2,896	1,126	6,083	2,277	176,426
California	230,184	1,864	635	56	2,555	2,234	229,870
PACIFIC STATES	714,344	8,733	11,945	5,655	26,333	8,496	720,236
TOTAL U. S.	9,646,840	149,008	198,352	141,191	488,551	129,267	9,807,772

Penn fueloil Dealers conduct co-operative builder Promotion

SUNDAY, February 19, 1961, with the grand opening of the Mark '60 sample home in Perkasie, Pa., marked the climax of a three-month cooperative effort between the North Penn Chapter of the Pennsylvania Oil Heat Council, Paoli, Pa., and the Horn Organization, builders of fine homes in the Lansdale-Perkasie-Quakertown area.

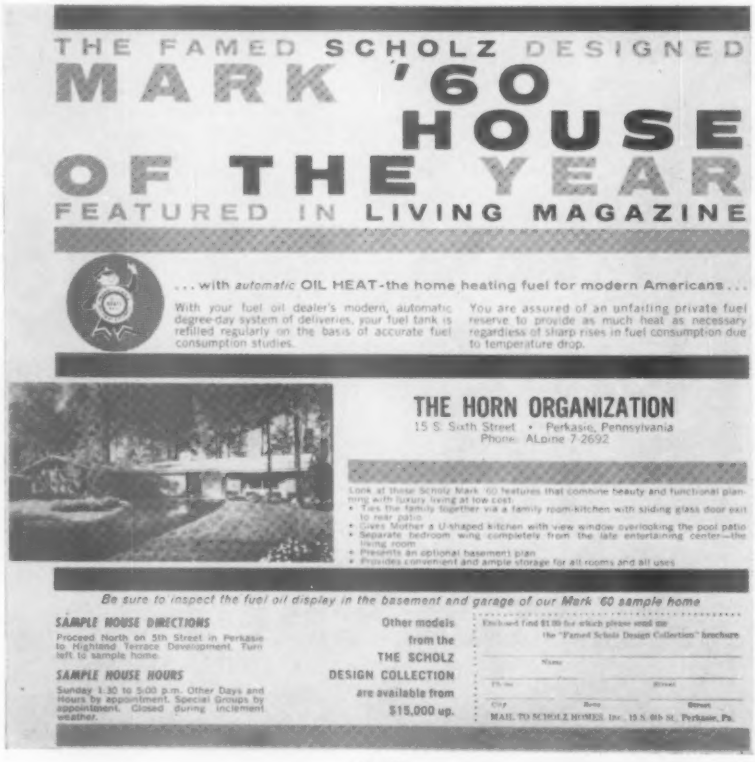
Some months earlier, F. Burton Hawthorne, North Penn representative to the POHC Board of Directors, had contacted Stanley Horn, head of the organization, on the proposition of installing oilheating in the homes he was to build in 1961. Hawthorne pointed out that due to the high price of utility heating many of Horn's previous customers already had made the conversion to oil, although the majority of the homeowners had been in their homes only a few years.

Adding more punch, Hawthorne proposed that the Pennsylvania Oil Heat Council, through their North Penn Chapter, subsidize the Horn advertising effort to the tune of 25% of the budget. In return POHC would receive 25% of the newspaper space. Horn, realizing the value of adding to the page space commanded by his ads, accepted immediately and asked the Council, through its ad agency, Lee Keeler, Inc., in Philadelphia, to prepare the schedule and design the campaign.

In view of the fact that in several of his homes Horn had allowed exhibits to be set up, an arrangement was made whereby the fueloil dealers of the North Penn area would have first choice for locations in the cellar and garage of the sample home to display their own oilheating products. Such brand names as Delco, Williamson, Sun Temp, Spencer, Dynatherm, Iron Fireman, Gulf Solar Heat and Esso Watchdog Service were prominently displayed by their various jobbers and distributors. Horn volunteered space and a large billboard where the dealers listed the reasons why this fine home was heated with oil. (See illustrations.)

It was decided to eliminate all advertising originally scheduled by the Chapter for the metropolitan newspapers and to concentrate the campaign with the eight weekly and daily newspapers in the immediate locale. The artistic design used in the ads was very modern and in keeping with the modernity of the Mark '60 theme and the program for "Modern Oil Heat."

A week prior to the formal opening, a cocktail party for the press was held at which the representatives of the newspapers where the advertising was to be placed met with the agency reps. The newspaper people were given a grand tour of the house, being shown the fine points of the oil heat exhibits, and returned to the comfort of the living room where they were presented with their individual schedules, a mat


THE FAMED SCHOLZ DESIGNED
MARK '60 HOUSE
OF THE YEAR
FEATURED IN LIVING MAGAZINE
...with automatic OIL HEAT-the home heating fuel for modern Americans...
With your fuel oil dealer's modern, automatic degree-day system of deliveries, your fuel tank is refilled regularly on the basis of accurate fuel consumption studies.
You are assured of an unfailing private fuel reserve to provide as much heat as necessary regardless of sharp rises in fuel consumption due to temperature drop.
THE HORN ORGANIZATION
15 S. Sixth Street • Perkasie, Pennsylvania
Phone: ALpine 7-2692
Look at these Scholz Mark '60 features that combine beauty and functional planning with luxury living at low cost:
• Ties the family together via a family room-kitchen with sliding glass door exit to rear patio.
• Gives Mother a U-shaped kitchen with view window overlooking the pool patio
• Separate bedroom wing completely from the late entertaining center—the living room
• Presents an optional basement plan
• Provides convenient and ample storage for all rooms and all uses
Be sure to inspect the fuel oil display in the basement and garage of our Mark '60 sample home
SAMPLE HOUSE DIRECTIONS
Proceed North on 5th Street in Perkasie to Highland Terrace Development. Turn left to sample home.
SAMPLE HOUSE HOURS
Sunday 1:30 to 5:00 p.m. Other Days and Hours by appointment. Special Groups by appointment. Closed during inclement weather.
Other models from the THE SCHOLZ DESIGN COLLECTION are available from $15,000 up.
Enclosed find $1.00 for which please send me the "Famed Scholz Design Collection" brochure
Name
Address
City
Zone
State
MAIL TO SCHOLZ HOMES, Inc., 15 S. 6th St., Perkasie, Pa.

of each ad to be run and a press kit, including publicity releases on the home, on oil heat and on the grand opening. In their next edition, each paper had a fine write-up on the home and the reasons why oilheating was installed.

Finally, the grand opening day came. It could not have been more perfect . . . the sun was shining . . . not a cloud in the sky and the temperature was in the low sixties. With this weather and the recent publicity the Council had hopes of seeing close to a hundred people turn out this Sunday afternoon. (Keep in mind that this development is in the $35,000-$50,000 class and is located far out in the country.) As one o'clock approached a stream of cars moved toward the home . . . a stream that did not ease for four hours. In all, 500 people viewed the oil heat exhibits that first Sunday with an additional 300 following one week later. From this, two sales have been completed by dealers with exhibits in the home and a number of "leads" have been gained.

Let's examine why the promotion was so successful!

First, was the ability of the North Penn Fuel Oil Dealers to convince the previous Horn customers that the conversion to oil would save them money. This was probably the strongest argument when trying to convince the builder to switch to oil for his new homes.

Second, was the fueloil dealers' ability to convince the builder that his ads would command much more attention with a cooperative fueloil promotion.

Next, was the exhibit, the builder's innovation, seldom imitated elsewhere. This exhibit gave the people a choice of articles for their home from door knob to heating system.

Then there was the decision to provide intense advertising and publicity coverage in the local newspapers instead of spreading the promotion too thin in the metropolitan markets.

Finally, there was the work of the professional people involved, the Pennsylvania Oil Heat Council's promotional staff. They designed a completely modern campaign, yet used it very successfully in conservative Pennsylvania Dutch country. They treated the local newspaper people to a professional-style cocktail party. They were completely prepared to answer all the questions from this group.

Profits in better Heating

Selling combustion Efficiency results in customer Comfort, a new oil Account

by Henry J. Blanchard

RESEARCH has revealed that combustion efficiency (modernization) is seldom practiced by the average oil distributor (or the engineer in charge of oilburner service).

It is not uncommon, under the circumstances, for a prospect, when first approached with the suggestion that "in the interest of efficiency all oilburners should be tested with combustion instruments" to display an obvious indifference and manifest no interest at all.

This is just what happened with a certain homeowner some months ago. The case is especially noteworthy and remained "fresh" in our minds for a long time because of the final results. We will call this Homeowner Mr. Jackson.

Jackson first came to our attention from our new business "lead" channels and was referred to one of our consultants. Incidentally, our salesmen are consultants.

The consultant arranged an appointment by telephone and called on Jackson, who unhesitatingly stated "his oilburners were all right, they were serviced regularly and therefore could not be inefficient." He politely informed our consultant that he knew nothing about "modernization" or combustion efficiency and that the matter of "efficiency" was left entirely to his serviceman. He admitted that he had never witnessed an instrument test of any of the burners.

Jackson was the owner of some fifteen houses that had been converted to small apartments and furnished rooms. The houses averaged 15 to 22 rooms each.

The consultant patiently explained combustion efficiency and the "necessity" of a periodic instrument test of all burners; that actual efficiency could not be determined without such a test.

The consultant finally suggested to Mr. Jackson that he choose two or three houses, the ones, that in his opinion were the highest in fuel consumption.

Mr. Jackson reluctantly agreed to have two oilburners checked.

This is what we discovered:

At House No. 1—Our observations and combustion data:

a. The burners had never been previously checked with instruments.

b. The burner was obsolete (old vintage), high pressure type, no head, no solenoid valve. Very poor smoky fire. Wrong nozzle—not properly fired.

c. The Boiler—steam (round) cast iron, conversion type. Heavily coated with soot, No Baffle. Proper size for heat load. Low water cut-off in good working order. Pressuretrol obsolete NG. Relay constant ignition type. Boiler apparently in good condition.

d. No draft stabilizer. No oil filter.

e. Thermostat old vintage NG and in wrong location.

f. No safety switches.

g. Radiator air valves—old original coal valves.

Our combustion Analysis:

Stack temperature	850° (net)
Smoke reading	9
Draft	.07
CO_2	4
Thermal Efficiency	37½%

The results of our survey for the burner at house No. 1, were carefully analyzed and in accordance with our findings—the following corrective work was recommended:

1. To clean the boiler, the smoke stack and remove excess soot deposit from base of chimney.

2. To replace the obsolete burner with our own new unit.

3. To furnish and install a special insulated chamber to the proper size and firing rate.

4. To install a new thermostat in proper place.

5. To install a new draft stabilizer in the proper place and a new oil filter located at the oil storage tank.

6. To install a new relay, a new Pressuretrol, and new radiator air valves.

7. To clean and paint outside of Boiler and seal all air leaks.

8. To establish a guaranteed combustion efficiency of 75% or better.

The Survey at House No. 2.

Our observations and combustion data:

a. Burner never previously tested with instruments.

b. Burner high pressure, no head, no solenoid valve. Wrong nozzle, improperly fired, very bad impingement.

c. Boiler—cast iron (conversion) sectional. Low water cut-off OK. Relay & Pressuretrol OK. Heavy deposit of soot. Smoke pipe in poor condition, no baffle. Boiler proper size for heat load and apparently OK.

d. Draft stabilizer not working. NG.

e. Combustion chamber, square, firebrick, breaking down, very poor condition, wrong size.

f. Safety switches OK. Good oil filter at tank.

g. Radiator air valves OK, to double check.

Our combustion Analysis:

Stack temperature	700° (net)
Smoke reading	9
Draft	.05
CO_2	4
Thermal Efficiency	48½%

We recommended the following corrective work:

1. To clean the boiler and remove excess soot deposit from base of chimney.

2. To remove owner's burner to our laboratory and completely remodernize the same. Temporary burner to be installed for owner's convenience.

3. To install a new draft stabilizer.

4. To install a new combustion chamber using a special insulated refractory and of the proper size and firing rate.

5. All controls to be properly checked and adjusted. Install a new Thermostat.

6. To clean and paint outside of Boiler—seal all air leaks. Install new cartridge at filter.

7. To establish a guaranteed combustion efficiency of 75% or better.

The complete specifications for all the corrective work on the heaters at House No. 1 and No. 2 were typewritten on our Customer's Agreement Forms and the same returned to our consultant who subsequently arranged an appointment with Mr. Jackson.

At the interview with Mr. and Mrs. Jackson, the consultant carefully reviewed the findings of the preliminary survey and outlined our recommended corrective work—using as his guide, the Company's official sales manual in color photographs together with the Basic Sales Presentation.

The consultant closed the sale for two Combustion Efficiency Jobs, one for the burner at House No. 1 and the other for the burner at House No. 2.

Homeowners usually are delighted with the step-by-step operation of a well organized efficiency procedure. The attention given to the preliminary survey—the careful analysis of the survey results—the presentation of the recommended corrective work and finally the efficiency installation that is completed with precision and care.

It was only natural, under the circumstances, that Jackson requested that we check the remaining houses.

Timothy Sullivan is the consultant who inspected and sold the modernization work at the houses of Mr. Jackson.

Efficiency beats Discount

Furthermore, we suggested that Jackson change his oil supplier (if he cared to do so) and that the cost of the same would be the local current price. He stated that he was getting a penny per gallon discount, but he had decided to accept our recommendation and to use practically his own words, "Efficiency is more important than a discount."

This is our experience with Jackson—who actually believed that the burners in all his houses were efficient and needed no attention! Believe it or not!

Perhaps, not in the too distant future, oil distributors will recognize the true value of combustion efficiency; and in so doing they will happily discover a sure way to stabilize old oil customers and find a "natural" for increasing the oil gallonage. All this without the necessity of sacrificing any part of their well earned income—that is—without discounts.

The case of Jackson, incidentally, is not uncommon except in the amount of the total gallonage involved. By the way, wouldn't you consider any new oil account a very good bonus for an efficiency job satisfactorily completed?

We think so and undoubtedly you agree too!

Better Heating with Zones

(*Begins on page* 45)

of the damper motor serving this zone will respond by turning slightly clockwise (in response to an electrical nudge from the modulating room thermostat serving zone A).

Link A-B will be moved slightly upwards by this action of the damper motor. That movement will close somewhat the bypass damper, move link B-C upwards slightly, and open somewhat the face damper.

Slightly less unheated air will flow to supply duct A directly from the blower; slightly more heated air, from the furnace plenum, will flow to this supply duct through the face damper.

Upward movement of levers A-B and B-C causes the supply duct to receive air that's warmer. Enough upward movement closes fully the bypass damper and opens fully the face damper. Then the supply duct is given air at maximum temperature . . . at the maximum or design temperature for the furnace plenum chamber.

On the other hand, downward movement of levers A-B and B-C in Diagram 5 drops the temperature of the warm air going to supply duct A. Enough downward movement closes the face damper fully, and opens the bypass damper fully. Then only unheated air, coming directly from the blower, goes to the supply duct.

Full air circulation for every zone at all times, with no reduction of this circulation as the heating load of a zone becomes less or zero, is the big feature.

Certain engineers provide this big feature for luxurious homes, and for less pretentious homes owned by those who want forced-air heat at literally its best. To work electronic air cleaning at its best, for example, you may aim to provide the full-flow continuous air-circulation of Diagram 5.

In this diagram, the equipment purposely is spread out physically to show it clearly. Actually, such equipment can be compact. The output duct of the blower can be beside the furnace rather than beneath it, the blower can be part of the furnace or in the furnace jacket, and vertical duct D and its companion can be side-by-side and in contact with the furnace casing.

Fredericksburg, Va.

OILHEATING MARKET REPORT

FREDERICKSBURG, Va., in the northeastern section of Spotsylvania County, is midway on a north-south line between Washington, D. C. and Richmond. This is one of the smaller oilheating markets to be surveyed by NFC, but seems best treated, at this time, as a program separate from those of these two large metropolitan centers.

The oilheating market here is defined within a 20-mile radius of the city, and contains an estimated population of 35,000.

Existing statistics do not conform to the particular section defined here as an oilheating market, but conferences with the local industry group have provided an estimate of 11,000 one- and two-family homes. The fuels for heating in these dwellings break down according to the following types:

Coal	900
Gas	30
Oil	9,000
Other	1,070
Total	11,000

There are, in addition to the 9,000 residential oil accounts estimated, another 300 to 400 installations in multiple-unit dwellings, stores, service stations and manufacturing or service plants.

About 75% of the coal-heated homes have centrally-installed furnaces. About 5,500 of the oilheated homes have central systems, the balance having space heaters or non-central systems.

Competitive Fuels and Costs

A municipally-owned utility, with a daily capacity for manufactured gas production of two million cubic feet, has provided that fuel, of 630 Btu per cubic foot, in the city. Plans have now been completed to introduce natural gas, tapping a transmission line 20 miles to the east. Rates announced indicate that costs will be quite competitive with the cost of oilheat. A typical residential requirement, for 1,400 therms (equivalent to the use of 1,000 gallons of No. 2 fueloil) would cost an average of 8.8¢ per therm.

No. 2 fueloil cost at the time of this study, 15.0¢ per gallon; No. 1, or kerosene, 16.0¢. Thus, on a Btu-equivalent basis, No. 2 fueloil, costing 10.7¢ per therm, would (in the typical case noted) be 28% higher than gas, or stated another way, gas would cost 22% less than fueloil.

Fuel Distribution and Oilheat Operations

There are, we estimate, about 10 million gallons of heating oils (kerosene and No. 2 fueloil) sold for residential use in this market, another million for small commercial-small apartment buildings. Of this total, about 65% or 6.5 million gallons is of the No. 2 grade, the balance kerosene, or No. 1. Most (95%) of the wholesale volume is brought in by independent wholesalers. The largest share (90%) of retail distribution is handled by independent jobbers. Salaried (major company) operations account for 5%, commission agents the other 5% of the tank wagon business.

More fueloil marketers service oilheating equipment (70% of all companies) than sell oilburners (16%). However, an estimated 50% of all oilburners installed in the market are sold by the fueloil distributors, and these companies also handle about 85% of the market's total service work load.

Industry Organization

While the market is admittedly quite small, the local marketers are individually sincere in their support of a group effort to protect oilheat's position. Including the local representatives of major oil suppliers, 17 member companies belong to the Fredericksburg Fuel Oil Dealers Association.

New London, Conn.

THE NEW LONDON, Connecticut, oilheating market forms a roof-shaped area, whose peak centers, to the north, just south of Norwich. Lyme, Quaker Hill, Montville, Groton, Mystic, Ledyard, Stonington, Waterford and Niantic are some of the communities in this section. New London and Groton are famous as the site of the U. S. Naval base and for the launching of the first atomic-powered submarine, the Nautilus, in 1954. The U. S. Coast Guard Academy is located at New London. The region, overall, supports a diversified manufacturing and commercial economy.

It is estimated that the present population of this market totals around 100,000, up from 65,000 in 1950. A growth of about 5% per year is forecast.

An estimate of the central and non-central heating systems in use at this time indicates the relative popularity of the three principal fuels, as follows:

Fuel	*Central Heating*	*Non-Central Heating*
Coal	2,000	700
Gas	5,000	1,000
Oil	17,500	2,000
Other	200	200
Total	24,700	3,900

Competitive Fuels

Both electricity and gas are furnished by one utility company, the Hartford Electric Light Company. Natural gas, of 1,000 Btu per c.f., was introduced in 1955. Rates for residential househeating, applicable to gas service in New London, Waterford and Montville, reach 13¢ per Ccf. at their lowest step, after consumption of 4,000 cf. per month. Initial quantities are at considerably higher rates, ranging all the way up to 58¢ per Ccf. for the first 300 cf., and 20¢ per Ccf. for 1,300 cf. after the first 1,200 cf. Thus, even if gas is used for cooking and water heating and an initial 20 therms of gas are charged off at the high, first-step rates for this use, some 20-cent, and 17-cent-per-therm (100 cf.) gas is used for the househeating load before the bottom rate. Actual gas househeating cost, then, probably runs to 14¢ or 15¢ per therm. In Norwich, a municipal utility operation provides natural gas service, purchasing directly from the pipeline and maintaining a tie-in line with New London. The rates are comparable with those in New London, however, reaching 13¢ per Ccf. at the bottom step, and the utility is not aggressive in its promotion of this fuel.

Gas heat contrasts with No. 2 fueloil, even at last heating season's highest price of 16.8¢ per gallon, figuring out to 12¢ per therm. So oilheat enjoys a substantial advantage here in comparative economy.

Anthracite coal, at $22.00 per ton, works out to a per-therm equivalent cost of 8.5¢.

Fueloil Distribution

The marketed volume of No. 2 fueloil in this area is estimated at 30 million gallons; for No. 1 or kerosene, at one million gallons. About 70% of the wholesale supply is brought in by major companies, and the balance is handled by independent wholesale suppliers. Virtually all of the retail, or tank wagon distribution is effected by the independent fueloil marketing companies. Some 30% of these companies are rack buyers, and do about the same percentage of the overall retail volume.

Marketing Characteristics

Some indications of the nature of the local oilheating marketing operation are offered by the following yardsticks:

Total oilheating installations in market made by:	
a. Fueloil companies	50%
b. Plumbing and heating (non-fueloil) companies	47%
c. Specialized burner service (non-fueloil) firms	3%
Percent of fueloil companies selling equipment	65%
Oilburner selling activity by fueloil companies	Decreasing
Percent of total service work in market done by:	
a. Fueloil companies	80%
b. Plumbing and heating (non-fueloil) companies	10%
c. Specialized burner service (non-fueloil) firms	10%
Oilburner service activity by fueloil companies	Increasing
Percent of all oilheating customers with:	
a. Automatic fueloil delivery	80%
b. Audible tank-fill signals	70%
c. Budget plans	10%
d. Service contracts	40%
e. Annual clean-up (additional to contract)	35%

Industry Organization

An industry group formed in 1957, and known as the Oil Heat Foundation of New London, has been legally incorporated this year. There are about 20 fueloil firms operating in the area, running an average of just under three trucks per company, and ranging in size from one to six-truck dealers. At this time, only eight of these companies have contributed to a promotional program sponsored by the Oil Heat Foundation, though they represent about 70% of the market's total gallonage.

An oilheat advertising campaign has been carried on since 1957. Using newspapers, and occasionally some direct mail leaflets and letters, the modest industry expenditure has been in the neighborhood of $1,800 each year. This amount has, however, been raised solely on dealers' subscriptions, at a rate of $50 per truck.

Copyright, National Fueloil Council, 424 Madison Ave., New York 17, N. Y.

Package-Boiler Distributor aims to insure Satisfaction

For one Thing, He checks Volts, Amps, and Ohms

by Martin Schwartz*

HOW DO YOU INCREASE sales and maintain good customer relationships through intelligent use of installation and service methods . . . in distributing commercial-industrial oilburner equipment, and specifically package boilers?

That question confronted Leonard Rathe and John Janssens about a year ago. These men are the owners of Combustion Accessories Corp., a sales and service representative of York-Shipley, which has headquarters in the Bronx, N. Y., and which distributes package boilers in the five boroughs of New York City, in Nassau and Suffolk Counties on Long Island, and in Westchester County.

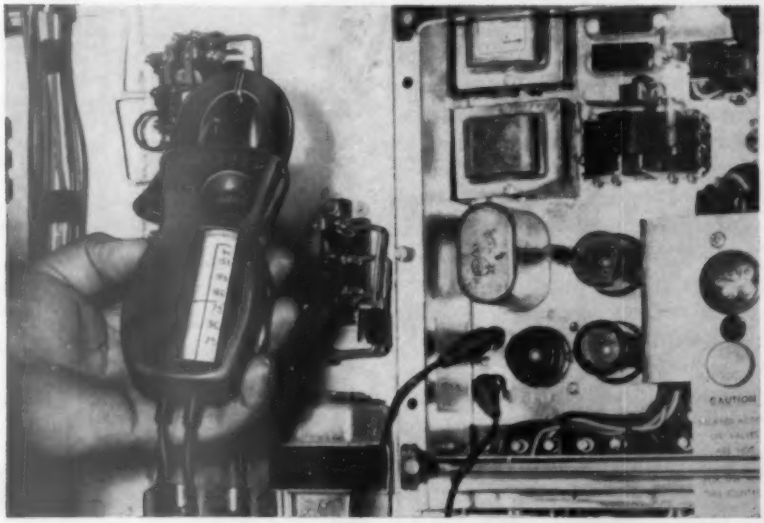
Rathe and Janssens were convinced that the procedures in common use were completely inadequate for producing maximum satisfaction for users of package boilers. Heating contractors installed most of the oilfired package boilers, though usually knowing little about their technical intricasies.

When time came to start up one of these package boilers, one of the contractor's employees would try to fire it up, or some local oilburner service organization would be asked to send a serviceman to put life in the new boiler. Either way, the spanking new package boiler was launched, put to work and tuned up after a fashion, without enthusiasm, and without technical know-how about a few dozen details on which its efficiency, fuel economy, and dependable operation were utterly dependent.

To top things off, information vitally important about service and repair was not readily available to servicemen who had to work on these package oilfired boilers, Rathe and Janssens believed.

Representatives of the manufacturers of the package boilers, these two men declare, rarely visited installations of their boilers—unless great trouble developed and caused an owner of one of the package units to scream for help to the boiler manufacturer by letter, phone, and telegram.

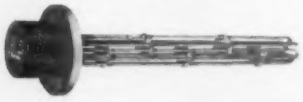
*General Sales Manager, Pyramid Instrument Co., Lynbrook, N. Y.



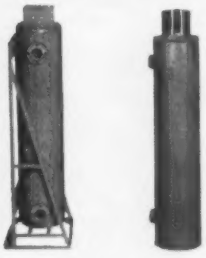
Connected to a Fireye electronic combustion-control, the Amprobe Model RS-3 proves that the "eye" of the control system sees the flame properly, and that the signal from the eye is being amplified enough for good dependable operation.

VULCAN
ELECTRIC HEATERS
DESIGNED FOR EVERY
HEAVY FUEL OIL
APPLICATION

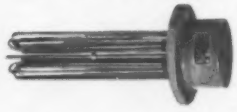
AUTOMATIC TAILPIECE HEATERS



AUTOMATIC RETURN LINE HEATERS



CIRCULATION HEATERS



AUTOMATIC SUCTION LINE HEATERS

VULCAN "MINIWATT" HEATERS

The Vulcan Line represents the most complete and up-to-date range of electric heating elements available to the oil burner industry.

Write for new fuel oil heater catalog V.O.700.

VULCAN

Versatility in Electric Heating

Vulcan Electric Company,
Danvers, Mass.

COMMERCIAL & INDUSTRIAL oilburning

Thinking this way about a year ago, Rathe and Janssens declared things would be different with their sales-distribution organization. They now say they knew that equipment sales depended on customer satisfaction at every level, and that lack of know-how on the part of servicemen could cause many unnecessary service calls.

They realized that electronic controls of package boilers were not really complicated, but still were relatively new and mysterious to many heating contractors installing package oilfired boilers.

After making a detailed study of commercial-industrial service procedures for oilfired package boilers, and of customer needs, these two men who own Combustion Accessories Corp., established this pattern:

Service Pattern

1. All service work would be done by independent service companies strategically located in the five boroughs of New York City, in Nassau and Suffolk Counties, and in Westchester County.

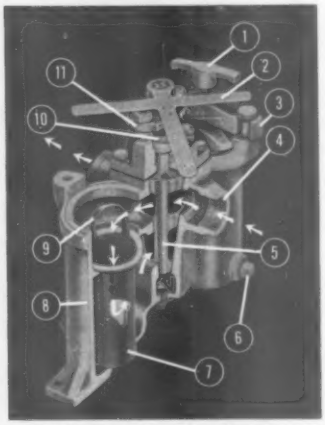
2. A highly effective educational program would familiarize men of the authorized service organizations, and men employed by the heating contractors installing the boilers, with York-Shipley oilfired package boilers.

3. The installation and servicing of every York-Shipley package boiler, and every commercial-industrial oilburner, would be properly supervised and controlled through use of a rigid system —established and operated at the headquarters of Combustion Accessories.

The first step in operating according to this new pattern was to find the right man for the position of service manager. He had to have a thoroughly good background in installation and service work, plus the ability to train service crews. His personality was an important consideration because, after all, he would spend more time with equipment owners than salesmen do;

KRAISSL
CLASS 72
STRAINERS
AND FILTERS
FOR OIL
BURNING
SYSTEMS

Listed by Underwriters Laboratories



Eliminate filter replacement costs—reduce supply problems. Complete range of sizes — from ¾" to 6" — pressures to 600 psig; broad range of separation . . . can be supplied with interchangeable, patented, multi-element baskets.

Check these design features . . .

1. Hand screw requires no special tools.
2. Handle shields side in use.
3. Accessible closure for easy basket cleaning.
4. Continuous separation is provided without flow interruption even during changeover.
5. Tapered, anti-wedging valve plug.
6. Drain connections on each basket chamber.
7. Interchangeable low cost baskets.
8. Assembled bodies tested under pressure in accordance with underwriters' specifications.
9. Spring handle holds basket on seat.
10. Independent stuffing box gland.
11. Adjustable locking flange establishes valve clearance.

Write for Bulletin A-1803

KRAISSL CO. Inc

295 Williams Ave., Hackensack, N. J.

this would give him a wonderful opportunity to build up customer confidence in oil heat and the products his company handled.

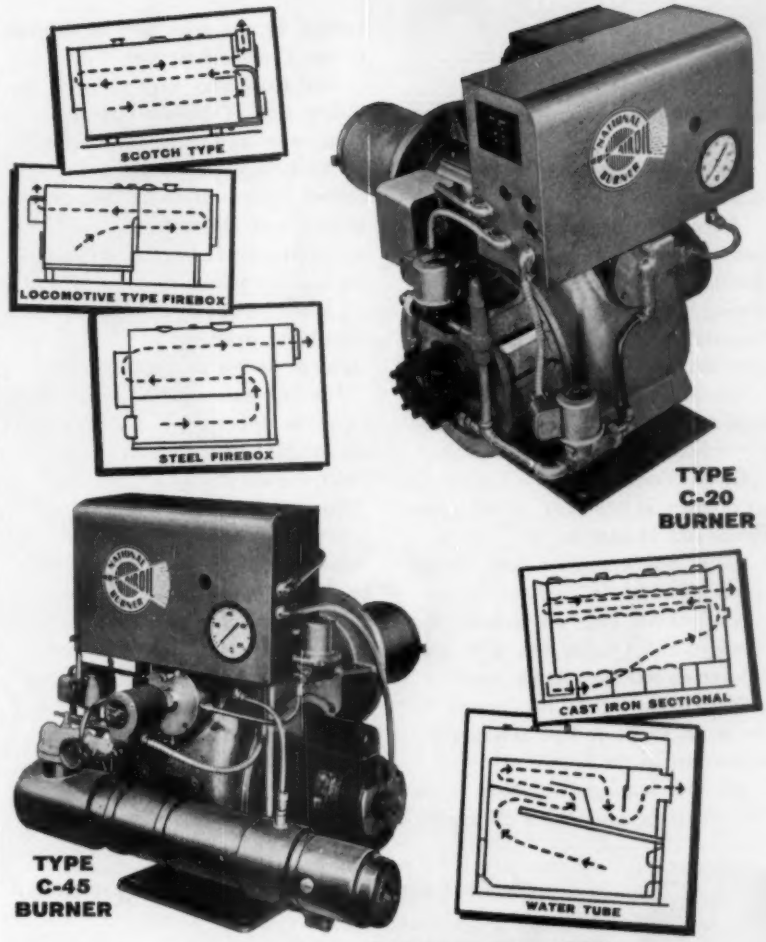
Paul Gold was hired to be the all-important service manager. He had been in business for himself for many years in the field of commercial-industrial oilburners and boilers. Thus he had executive and sales ability plus technical know-how. He was anxious to join up with Combustion Accessories Corporation and participate in its large-scale operations of selling commercial-industrial oilburners and package boilers, and making certain these were installed and serviced splendidly.

The next step was to select independent service companies, strategically located and well qualified for starting up, tuning and adjusting, and servicing commercial-industrial oilburner equipment and everything related to it.

Executives of different service organizations were interviewed with these qualifications in mind:

1. The service company should be well established and should have a good history of servicing commercial-industrial oilburner equipment.
2. It should have sufficient manpower for its assigned territory.
3. Its service trucks must be equipped with two-way radios.
4. It must be stable financially.

Serviceman has removed a fuse he thinks may be blown. With the Amprobe leads plugged in to read ohms, he uses the instrument as a continuity tester and finds the fuse is good, not blown. The best way to test a fuse is to remove it from its clips or socket and find out if current can flow through it.



Name Your Boiler Type...

Whatever your unit . . . forced draft "pressurized", natural or induced draft . . . there are TWO National Airoil *job-engineered* oil burners ready to go to work to provide *better* performance . . . *at far greater economy!*

Select **TYPE C-45** for burning **Numbers 4 and 5** commercial fuel oils . . . 7 models with capacities to 33 gph . . . quiet, easy to install, high temperature flame, excellent combustion. Bulletin 100A.

Select **TYPE C-20** for burning the lighter **Number 2** fuel oil . . . 7 models with capacities to 33 gph . . . clean, pulsation-free operation. Bulletin 102.

These Underwriter-approved **package** burners offer a host of outstanding first-time features. Data is contained in our comprehensive literature and specifications. Just tell us your needs and you'll hear from us by return mail.

Established 1912 Incorporated 1917

NATIONAL AIROIL BURNER COMPANY, INC.

1284 E. Sedgley Avenue • Philadelphia 34, Pa., U.S.A.

Industrial Oil Burners, Gas Burners and Combustion Equipment

5. It must have modern and adequate shop facilities.

After many service companies had been studied and carefully screened, Rathe and Janssens say today, the following were selected for tie-in operation with Combustion Accessories Corporation:

Commander Oil Corp., having ten servicemen working in the field, would cover Nassau and Suffolk Counties.

Circle Combustion Co., with 12 servicemen in the field, would cover Bronx and Manhattan.

Fiore Brothers, five men, would cover Staten Island.

Kleen Heet Inc., would serve the Brooklyn and Queens area with nine servicemen working in the field.

Westchester would be covered by the A. B. Wolle & Co., having eight servicemen in the field.

All five boroughs of New York City would be provided with standby service by the four field servicemen of the Comaco Company.

Paul Gold next went to work providing each of these service organizations with two days of instructions on York-Shipley commercial-industrial oilfired equipment, using slide presentations and distributing installation and service manuals to the men attending his educational courses.

On-the-job field training in both installation work and service work was included in this educational effort.

His field training sessions gave Paul Gold the opportunity to demonstrate his standard test procedures to his students, the servicemen.

For checking out electrical components, he used a snap-around ammeter which has the added features of being able to check volts and ohms.

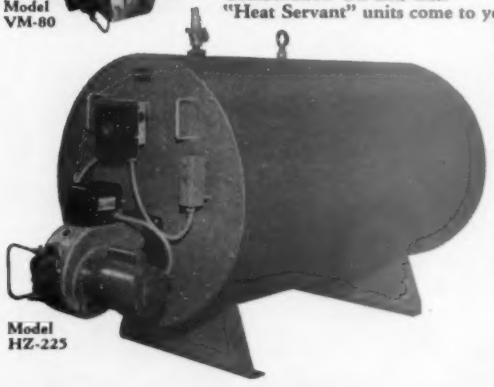
He recommends that all servicemen carry an Amprobe Model RS-3 because it is pocket size, and is the only snap-around instrument made that measures amperage, voltage, and resistance in ohms. In addition to being pocket size, this instrument is simple to use . . . it was designed for oilburner servicemen. It is so inexpensive that any service organization can afford to provide it for each of its servicemen. It has a rotary scale, designed to eliminate chances of errors in reading.

Because the Amprobe is a snap-around type instrument for reading amperes, it can be used to take ampere readings without shutting off a motor or an electric fueloil preheater, for example. To take a reading of amperes using an Amprobe tester, the jaws of the instrument simply are snapped around an insulated wire. Because the wire is insulated, the serviceman stands no chance what-so-ever of getting an electric shock.

The accompanying photographs and their captions cover some uses of the Amprobe tester for amperes, volts, and ohms, which Paul Gold explained thoroughly to the groups of servicemen he taught the fundamentals and niceties of starting up, adjusting, tuning, and troubleshooting York-Shipley commercial-industrial oilburners and package oilfired boiler units.

To add to the two-day training course which Paul Gold provided to

Model VM-80



Model HZ-225

....the last word in water-heating efficiency!

JOHNSON'S

PACKAGED "Heat Servant" BOILER-BURNER UNITS

for HOT-WATER SUPPLY

or HOT-WATER HEATING

In these compact new, factory-assembled units, Johnson brings water-heating engineering to a new high of efficiency and reliability. They are powered by automatic Bankheat Burners which have long held a world wide reputation for faithful, fuel-saving performance. They are available for operation on Oil, on Gas, or on Combination Oil-and-Gas.

"Heat Servant" units come to you with burner and all controls mounted, wired and tested . . . ready to hook up to water, fuel and electric lines for inexpensive installation. They are available in 2 Vertical Models and 2 Horizontal Models (Scotch Boiler type) as follows:

For HOT-WATER SUPPLY:
Vertical Mod. VM—7 sizes: 80 to 525 MBH—20 to 120 Gal. Stor.
Horizontal Mod. HZ—3 sizes: 100, 150, 225 MBH—50, 75, 100 Gal. Stor.

For HOT-WATER or STEAM HEAT:
Vertical Mod. VV (Hot-Water Heat)—12 sizes: 125 to 1000 MBH.
Vertical Mod. VV (Steam Heat)—7 sizes: 125 to 850 MBH.
Horizontal Mod. HS—6 sizes: 325 to 2000 MBH.

Whatever your need may be . . . there's a "Heat Servant" unit that will meet it perfectly. May we send detailed descriptions and data?

Johnson Oil Burners

S. T. JOHNSON CO.
940 Arlington Ave., Oakland 8, Calif.
Church Road, Bridgeport, Pennsylvania

Builders of fine Oil Burner Equipment since 1903

Sequence signaling makes servicing easier

Used on commercial-industrial burners, the Honeywell R478 Programming Relay assures years of safe, dependable operation. New signal lights indicate sequencing and continuity checks for easier servicing.

Honeywell's R478
PROGRAMMING RELAY

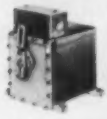
Satisfy every flame safeguard need with a quality Honeywell control or system

C7012 Ultra-Vision* Flame Detector

RA890 Protectorelay*

V4034 Fluid Power Gas Valve

L404 Pressuretrol*


M931 Modutrol* Motor

V4021 Oil Valve

C645 Pressure Switch

V4004 Diaphragm Gas Valve

For details, write Minneapolis-Honeywell, Dept. FH-4-44, Minneapolis 8, Minn.

Honeywell

HONEYWELL INTERNATIONAL
Sales and Service offices in all principal cities of the world. Manufacturing in the United States, United Kingdom, Canada, Netherlands, Germany, France, Japan.

H First in Control SINCE 1885

*Trademark

fuel oil & oil heat

begin with for every serviceman whose employer became affiliated with Combustion Accessories, he arranged for each of these servicemen to attend a two-day training course twice each year at the factory of York-Shipley.

Combustion Accessories provided additional features to insure the satisfaction of the users of the commercial-industrial oilburner and boiler equipment it distributes. Here's the program for each new installation:

First, when the installation has been planned and the installation work is being started, present on the job are the heating contractor or his representative carrying his full authority, and Paul Gold as service manager—two men who have full control of all installation details.

Second, when the installation has been fully completed, but before it will be started and fired, the same two men meet on-the-job and check over every detail of the installation work.

Third, after these two men have agreed that the installation is ready for firing, they meet on-the-job for the firing up with additional men. These include an executive representative of the service company that will start up and service the equipment, a serviceman, and the maintenance man (employed by the owner of the equipment) who will see the equipment daily and give it routine attention related to lubrication of motors, keeping it clean and wiped off, etc. At this time, the maintenance man, or the building janitor or superintendent, becomes familiar with the entire installation, and receives specific instructions on what he is to do to maintain it, and to cope with ordinary and routine small difficulties which may possibly be encountered later.

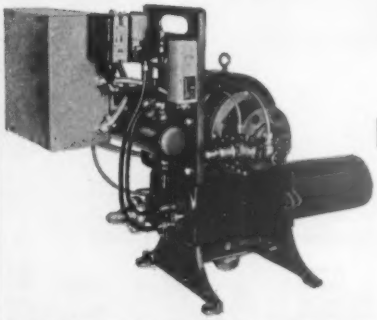
Follow-up Check

Fourth, and after the oilfired equipment has been in use for one month, Paul Gold meets on-the-job with the maintenance man, or the building superintendent or janitor, to discuss its operation further, to make certain it is being maintained and adjusted and cared for properly, to answer any question that might have come up in the mind of the maintenance man or anyone else who sees the equipment running every day.

Every part of the service procedure is equally thorough. If difficulty arises, the equipment owner phones his assigned service company. Reports on all service calls are sent to Combustion Accessories, where Paul Gold studies them with an eye for unnecessary callbacks and unusual situations. He is available on a 24-hour basis for consultation and handling himself any unusual field service work.

The program has been in effect a year now, and its effectiveness is without question. Sales have climbed as the result of hearty recommendations from well-satisfied customers. Combustion Accessories executives explain that they have developed a working partner for the York-Shipley pre-wired Steam-Pak packaged unit. This working partner, they say, is their "packaged installation and service organization."

No. 4 OIL BURNER by ELECTROL fully automatic



ELECTROL HO Series Oil Burners are designed specifically to burn No. 4 fuel oil and feature:

- No moving arms and rods, special pumps, or heaters.
- Famous Electrol Cut-off Valve prevents after-drip.
- Hot oil at nozzle on every burner start.
- Standard stock items—heater, controls, valves, nozzles, pump, etc.
- Three models, 2 to 20 gph.

and . . . the finest and most complete line of #2 oil burning equipment including warm air furnaces, boilers and water heaters, from .75 to 24 gph.

Write for "HO, No. 4 Burner" literature, or on any oil burner problem.

ELECTROL BURNER MANUFACTURING CO., INC.
RUTHERFORD, NEW JERSEY

Dewey SAFETY AIRFLOW AND PRESSURE SWITCHES

World Leader for Dependability

"D" Series Switch shuts off fuel if drop in fluid or gas pressure occurs.

"114" Series Switch shuts off fuel if blower fails.

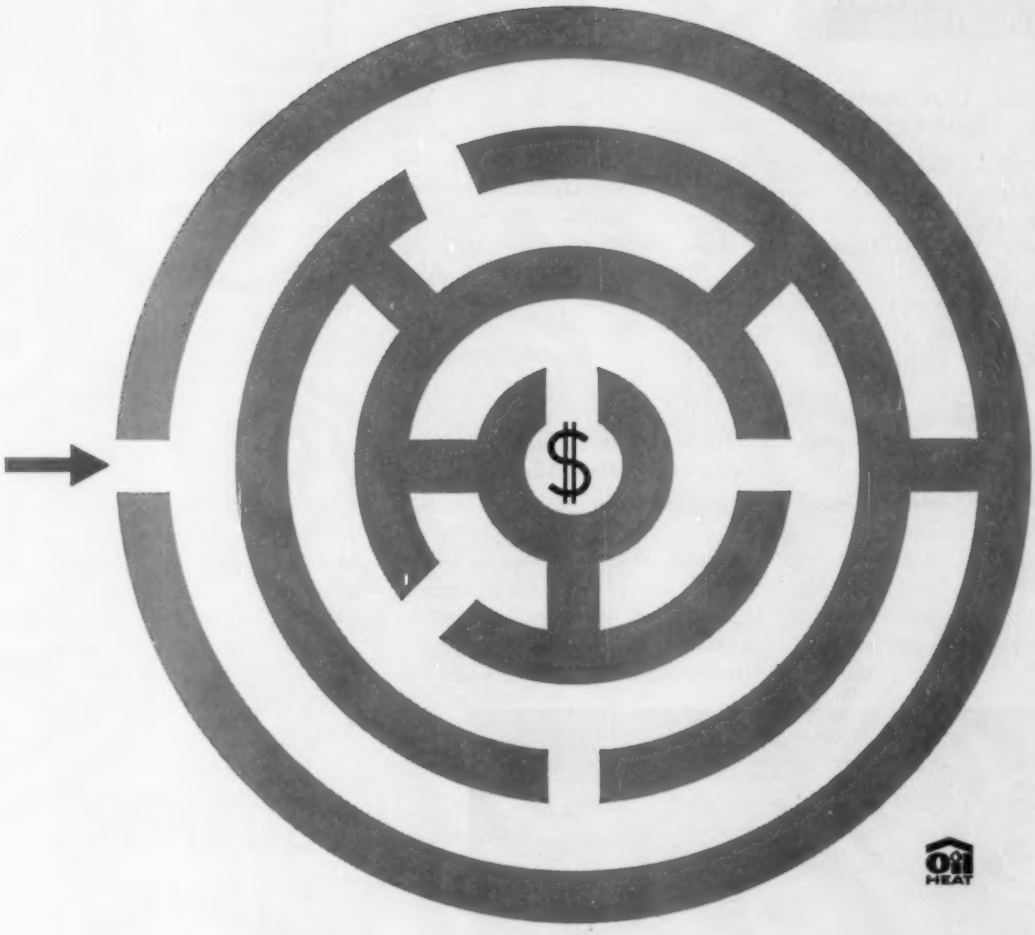
Thousands sold. Factory Mutual and Underwriters Laboratories Approved. Standard equipment on leading products. Write for prices and literature.

FREE CIRCULAR—

Dewey Gas Furnace Co.
102 E. Baltimore • Detroit 2, Michigan

PROTECTION FOR: Oil Burners—Industrial Ovens and Boilers—Power Gas Burners

one of a series



ATLANTIC GUIDANCE MEANS MORE PROFIT FOR YOU

Practically every successful heating oil distributor faces a maze of everyday business problems: operations planning, including the maintenance of degree day delivery systems • bookkeeping • financial planning • personnel training • equipment use and service • credit decisions.

Your Atlantic representative has the answers! He's met and solved these problems time and again for distributors of quality Atlantic Heating Oil.

In addition to this advice and counsel, as an Atlantic distributor you are given thorough sales and operational training. It is part of Atlantic's Distributor Advisory Service. Then, too, you're backed by the research, refining skill and marketing know-how of a company that has had more than 90 years of experience in the petroleum business.

ATLANTIC HEATING OILS

For more information on how Atlantic can help you, call or write our nearest Regional Office: Philadelphia, Pa., Pittsburgh, Pa., Providence, R.I., Syracuse, N.Y., Charlotte, N.C.

Look to Atlantic for quality heating oil

THE ATLANTIC REFINING COMPANY

PRODUCER, REFINER AND MARKETER OF QUALITY PETROLEUM PRODUCTS

fuel oil & oil heat

Distribution Terminals opened by Shell Oil Co.

THREE PRODUCT distribution terminals have been opened by Shell Oil Co., New York, N. Y.

The Madison, Wisc., terminal has a total storage capacity of 4,200,000 gallons and will distribute heating oil, among other products, in a 50-mile radius of Madison. The second terminal, in Savannah, Ga., receives products via ocean tankers from Shell's Norco, La., refinery and the Houston, Tex., refinery, and will distribute products in a 15-county area of Georgia and part of South Carolina.

The Montgomery, Ala., terminal, with a storage capacity of 735,000 gallons, also receives products from Shell's Norco, La., refinery, via pipe line.

Scholarship Established by General Controls Co.

GENERAL CONTROLS CO., Los Angeles, Calif., has announced that it is sponsoring the William R. Ray Scholarship Fund at Stanford University, Palo Alto, Calif.

Honoring the late William R. Ray, one of the founders of the firm, the fund will make $1,000 available each year to a deserving student planning to specialize in a scientific field. Individual financial need as well as scholastic ability will be considered in choosing the recipient, the company said. Special consideration will be given to the children of General Controls Co. employes.

Morrison Steel appoints regional sales Managers

MORRISON STEEL Products, Inc., Buffalo, N. Y., has announced the appointment of four regional sales managers as part of an expanded national sales program. All of the men will be responsible for the development of distribution of the company's Mor-Sun furnaces and air conditioners in the areas in which they will serve.

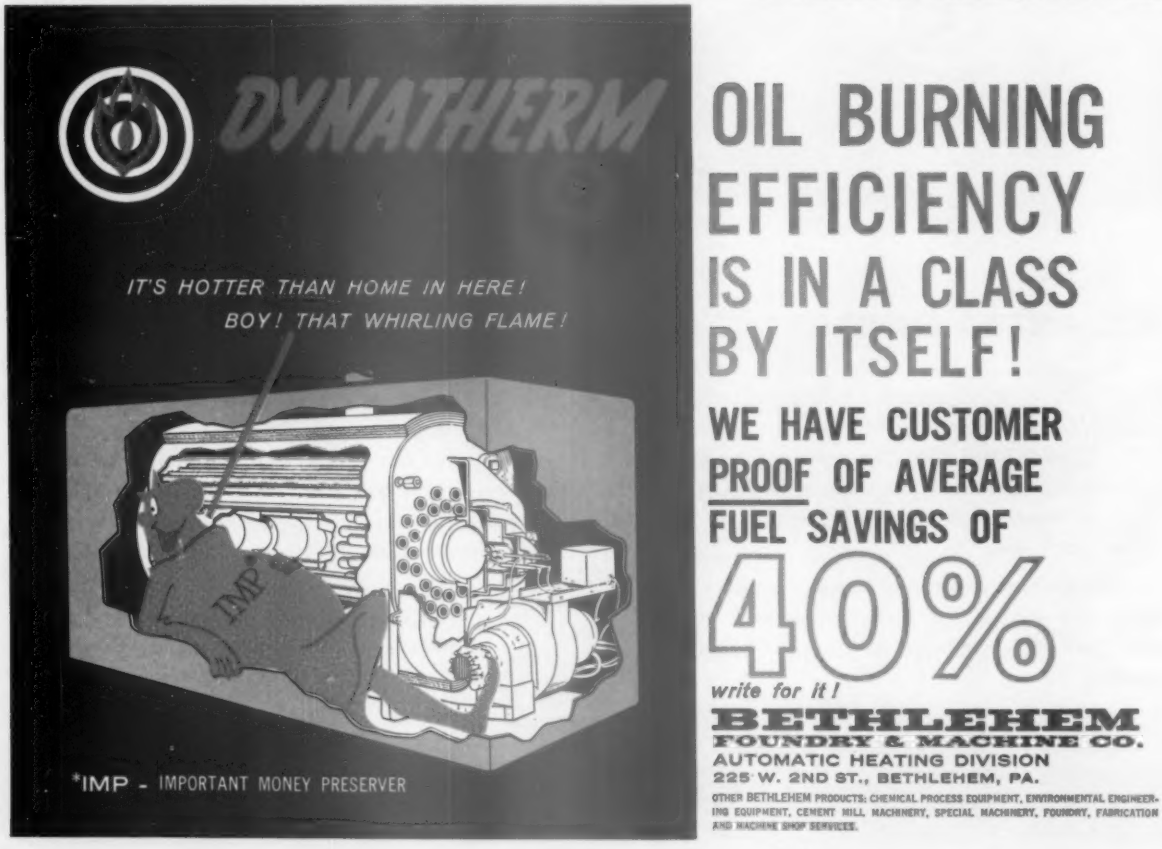
The recently created post of Northeastern Field Zone Sales Manager has been filled by Edward W. Foehl, who will represent the company in the New England and Mid-Atlantic states.

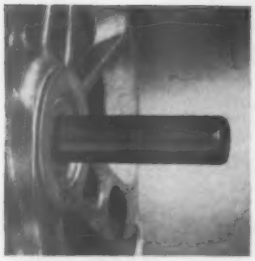
Walter H. Kelly will serve Morrison as Midwestern Zone Manager. Paul A. Hunker has been named manager of the Southern Zone, and Arthur J. Seeds has been named Factory Representative for the state of Ohio.

Lau-Viking reorganizes sales Departments

WITH THE ACQUISITION of Viking Air Products by Lau Blower Co., a major reorganization of sales activities has taken place within the combined operation. Separate sales departments, the Blower Division and the Home Comfort Products Division, have been formed. Included in the second division are furnace humidifiers and attic fans.

Viking will be designated the Viking Air Products Division of the Lau Blower Co., and the Cleveland plant


DYNATHERM
IT'S HOTTER THAN HOME IN HERE!
BOY! THAT WHIRLING FLAME!
IMP
*IMP - IMPORTANT MONEY PRESERVER
OIL BURNING EFFICIENCY IS IN A CLASS BY ITSELF!
WE HAVE CUSTOMER PROOF OF AVERAGE FUEL SAVINGS OF
40%
write for it!
BETHLEHEM
FOUNDRY & MACHINE CO.
AUTOMATIC HEATING DIVISION
225 W. 2ND ST., BETHLEHEM, PA.
OTHER BETHLEHEM PRODUCTS: CHEMICAL PROCESS EQUIPMENT, ENVIRONMENTAL ENGINEERING EQUIPMENT, CEMENT MILL MACHINERY, SPECIAL MACHINERY, FOUNDRY, FABRICATION AND MACHINE SHOP SERVICES.



SHAFT PROTECTION—new gun-metal-like treatment of shaft resists rust so the blower is always easy to remove.

AIR-SHIELD DESIGN transmits heat swiftly, greatly reducing "trip-outs" that result in time-consuming service calls.

FAST ROTATION CHANGE cuts your inventory in half. Simply reverse leads ("A" to "B").

4-YEAR LUBRICATION at factory practically eliminates reoiling. Motor has doubled oil supply.

It's that simple when you use General Electric oil burner motors

General Electric's oil burner motor will give years of reliable service on the oil burners you install, service, or build. This means a high degree of customer satisfaction with the furnace equipment you supply since you practically eliminate call-backs or emergency service calls.

Contributing to the motor's long life are a rust-resistant shaft, a special air-shield design, four-year lubrication at factory (see photos), a wear-resistant switch, and moisture-resistant Mylar* polyester film insulation.

All these extra-value features are yours when you specify "G-E motors" on the oil burners you buy. They're also ideal for replacement purposes. For more information, write Section 738-06, General Electric Company, Schenectady 5, N. Y.

* Registered Trade-mark of DuPont Co.

Progress Is Our Most Important Product

GENERAL ELECTRIC

How to sell your prospects!

Lo-hi boy warm air unit. Oil or gas fired. Completely factory assembled and wired for simplified installation. Easily adapted to air conditioning service.

One of your very best sources of new business is your prospect list. You will be in top position to sell these prospects if you are handling the extensive line of Thatcher home-comfort-conditioning units.

Because Thatcher units can be selected for oil or gas—whichever is best suited for your prospect; because Thatcher units come in enough output capacities to assure a unit neither too big nor too small for each job; because Thatcher units are available in steam, hot water or warm air—and because Thatcher units are built to quality standards, you can offer your prospects perfect assurance of a home-comfort-conditioning unit that will meet their needs at minimum investment with economical operating cost.

Lo-boy Boiler. Steam or hot water, oil or gas fired, cast iron or steel. Factory packaged units.

Central Air Conditioners. Packaged or split systems for residential and light commercial use. Models from 22,000 to 82,000 Btu/Hour.

Dual Purpose oil fired warm air unit, use as horizontal or counterflow. Other units for gas.

Thatcher Since 1850

Write today for franchise details

THATCHER FURNACE COMPANY

DEPT. FO-4, GARWOOD, NEW JERSEY

BOILERS, FURNACES, AIR CONDITIONERS

Branch offices and warehouses: Boston • Chicago

will remain in operation. John Furin, former assistant sales manager of the Viking plant has been appointed sales manager of the new division.

Weil-McLain forms Canadian Affiliate

WEIL-MCLAIN CO., INC., Michigan City, Ind., has announced the formation of a Canadian affiliate, Weil-McLain (Canada) Ltd., Toronto.

A joint stock company with substantial Canadian participation, it will produce and distribute the company's line of residential and commercial cast iron boilers and radiation.

Division of Motor Wheel moves its Headquarters

ALL SALES, service and Engineering departments of the Consumer Products Division of Motor Wheel, Lansing, Mich., have been moved to the company's new LaGrange, Ind., plant.

The 120,000 square foot plant, announced by the company in July, 1960, for the manufacture of Duo-Therm space heaters and airconditioners, will henceforth be headquarters for this division of the company

Thermostats illustrated in White-Rodgers Booklet

WHITE-RODGERS CO., St. Louis, Mo., has published a color folder, containing information about their "Straight-Line" series of room thermostats.

The back page of the folder is a fully detailed catalog sheet, listing specifications and other pertinent matter for all the thermostat types available.

The folder, Unit R-1691, is available, free, from White-Rodgers Co., 9797 Reavis Rd., St. Louis 23, Mo.

Personnel Reassignments made by Paragon Oil Co.

PARAGON OIL CO., New York, N. Y., announces that W. P. Cowans, formerly assistant manager of the company's Fuel Oil Sales and Burners Department, has been appointed Sales Manager, Burners and Equipment.

O. Rosenblum, Plant Superintendent, has been named manager of the same department.

Hago

PRECISION NOZZLES

STANDARD STRAINER FROM 1.00 UP

SINTERED FILTER SUPPLIED ON .50 THROUGH .85 g.p.h. AT NO EXTRA COST

TO QUIET NOISY FIRES AND COMBAT PULSATION, TRY OUR NEW **"ES"** NOZZLES

Hago Products Inc.

1120 GLOBE AVE., MOUNTAINSIDE, N. J.

***IN CANADA* — RICHARDSON, LTD.**

3269 Bloor St. West, Toronto

API Research Conference

(*Begins on page* 61)

J. R. Tuttle, Esso Research and Engineering Company, reported on a study of the vaporization of distillate fuels in an idealized system.

He said data showed that residence time, temperature and composition all have a major effect on residue formation and the most likely avenue for reducing residue may be to reduce residence time.

Development of a theoretical model of fuel droplet combustion was reported by R. E. Paterson, California Research Corporation and D. F. Fairbanks, Department of Chemical Engineering, Massachusetts Institute of Technology. Using relations developed by theory, calculations are shown for the flame velocity and distance required for complete combustion of fuel droplets.

J. R. English, Esso Research and Engineering Company, reported on a short-cut method of determining drop size from an atomizer. Utilizing the immersion sampling technique, only a few of the larger particles in a sample are measured. The mass median diameter is then estimated from these particles, using an empirical correlation.

A gravimetric correlation of smoke measurements was prepared by Russell A. Hunt, Jr. and the late Richard E. Biller, American Oil Company. The correlation was developed between the gravimetric soot content of flue gases and the smoke-spot numbers used in the proposed ASTM Smoke Density Test. The quantity of soot found in the flue gases is an exponential function of smoke-spot number; it almost doubles with each increase of one smoke-spot number.

R. J. Lang, Esso Research and Engineering Company, reported on a technique to measure burner air patterns so that the correct nozzle could be chosen quickly. It employs a cheesecloth screen, wet with copper sulfate solution, and a small quantity of ammonia introduced into the air intake to give an outline of the pattern on the screen. The proper nozzle spray angle and spray cross-section can be selected from this picture, using a simple chart.

A promising technique for improving oilburner performance is the recirculation of combustion gases back to the air inlet of the burner, reported F. R. Dunn, Jr., Atlantic Refining Company. Only relatively simple modifications to an existing burner appear to be required to apply this technique to the high pressure gun type burner.

The Ventres Blue-Flame Burner demonstrates design principles well-suited to use in modern oil-fired house heating and applicance applications, reported D. J. Saxton and E. R. Lane, Shell Oil Company. Blue-Flame combustion involves "suspended vaporization" of the fuel charge which avoids formation of carbonaceous deposits. It is achieved by recirculation of hot combustion gases in the vaporization zone.

B. R. Walsh, Gulf Research and Development Company, described various configurations of a new fueloil burner, employing an aspirating nozzle, which can be installed in equipment normally fired with gas. An air pump and a constant level device are required, but no oil pump, no blower, no air cone or combustion chamber are needed.

MAKE MORE,

get your name on the Door

You have three special advantages working for you when you take on a Sinclair Oil Heat franchise...

$ **Sinclair Heating Oil** is one of America's best-selling heating oils. Premium Quality at regular price, it contains an exclusive anti-rust ingredient. That means fewer service calls.

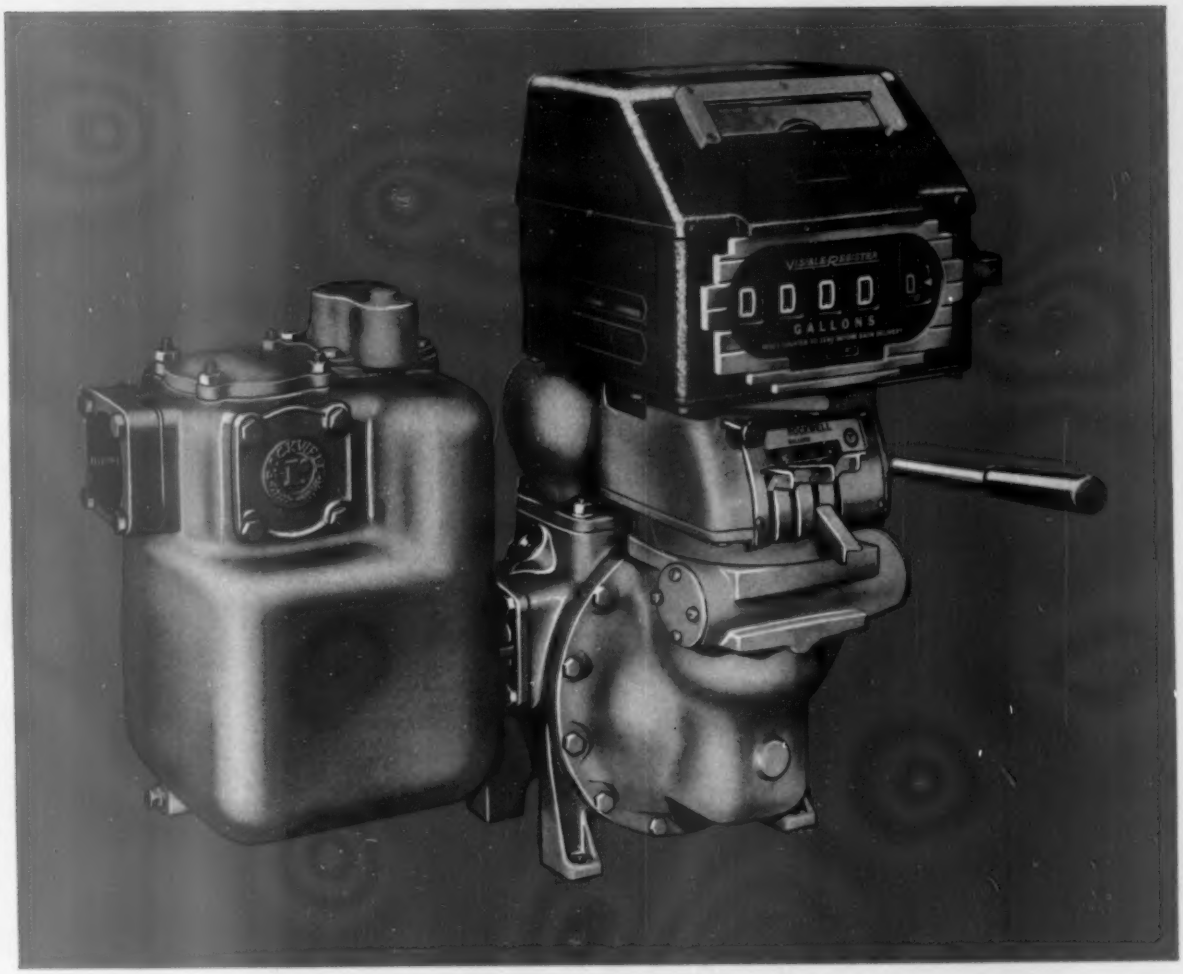
$ **An unusual sales training program** that helps bring you new customers.

$ **Ample storage facilities** assure you of quick, dependable service.

Team up with Sinclair Oil Heat for more profits. For details, write: Sinclair Refining Company, 600 Fifth Avenue, New York 20, New York.

Sinclair HEATING OIL

Sinclair HEATING OIL SuperFlame



It's what's inside that counts your profits

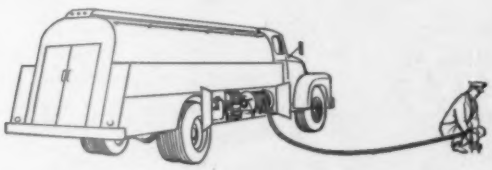
Rockwell "T" Series Tank Truck Meters have it where it counts. They measure by an exclusive meter principle in which the all-revolving mechanism turns easily, quietly on anti-friction bearings.

There is no metal-to-metal contact to cause wear. And these meters are designed to take the punishment of truck travel and rough handling in stride.

Lightweight castings reduce bulk while compact dimensions offer the most measurement in the least space. Savings in space and weight can be used to advantage for greater payloads.

For easy installation there are *three* optional inlet connections and *two* outlets. All interior parts can be removed through full size areaways. To calibrate, only a screw driver is needed.

See your local equipment jobber for full details —or write direct to Rockwell Manufacturing Company, Dept. 122D, Pittsburgh 8, Pa. In Canada: Rockwell Manufacturing Company of Canada, Ltd., Box 420, Guelph, Ontario.



TANK TRUCK METERS

another fine product by

ROCKWELL

Readers' Problems

Q. As a subscriber I wish to obtain some information with regards to a burner firing perfectly four or five times. Then if it is idle for about five minutes, on a start-up it hesitates to fire, then I get a smoke-back through its air gate.

Here is a diagram of the set-up.

The left-hand burner fires 3.50 gph for house heating. This burner gives the difficulty. The right-hand burner fires 1.0 gph for providing hot water on tap.

Notice both burners start with separate return lines, which connect together to one return line going out to the tank. One suction line comes in from the tank and has one antisiphon valve in it, which valve serves both burners.

If the house-heating burner is idle for any length of time, say five or ten minutes, on the next start-up it does not fire promptly as it should. When it does light off, it smokes back through the air gate. This will in time smoke up the electrodes. Then I am afraid of back-fire and smoke into the nursing home heated by this burner, as this has happened once before.

Does my diagram show the proper way to connect two oilburners to one outside tank, or would you suggest a different way . . . such as separate piping, suction and return, from the outside tank to each burner?

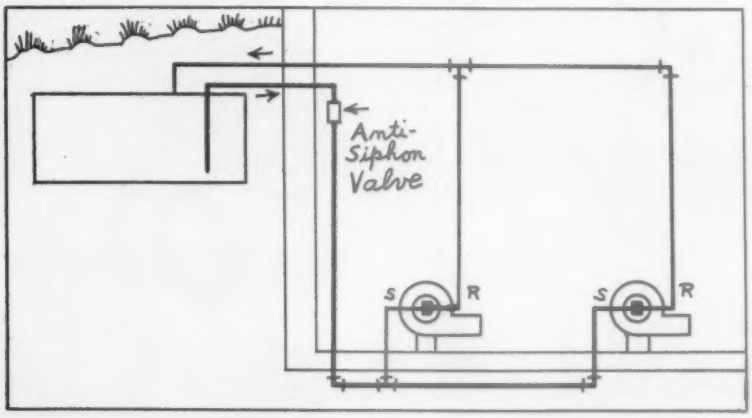
D. N. A., Concord, N. H.

A. Such trouble occurs as the result of connecting two burners to one suction line. In this instance the trouble is increased by the use of the one antisiphon valve in the common suction line, which antisiphon valve is used, of course, because the oil tank is higher than the oilburners.

You can end the difficulty by providing each burner with its own suction line, which runs out to the tank. Use two, independent suction lines, each equipped with its own antisiphon valve.

The present return-line arrangement is satisfactory. Two burners can use one return line. To install separate return lines would be incorrect, as it would represent a waste of labor and material.

Another excellent way to end the difficulty is to install an automatic wall pump, connected to the single suction line now used. Doing this eliminates the need to run a second suction line, which works out to be highly expensive in some instances of this kind . . . where the original suction line is long and under pavement or a concrete sidewalk. Give the two oilburners fueloil by gravity feed from the automatic wall pump. Many burner men put great value on this method; it makes the two burners work as well as though they are given oil by gravity from an inside tank.



Q. A typical rotary-cup burner using No. 6 oil and firing 30 gph is giving me a headache. The boiler necessarily becomes cold for repairs or tube punching . . . or as the result of the burner's stopping "on safety" occasionally during the night. Then starting up the oilburner is my headache, with the fueloil cold and the steam boiler cold. Firing up cold takes an hour or two sometimes, winds up with all the oil controls out of adjustment, and with the need to set them up properly again. This happens even if to start up I build a big bonfire in the firebox.

Such an installation has two fueloil preheaters. First, there's the under-the-waterline indirect heater on the boiler, in the suction line serving the pump-type oilburner. With the boiler cold, of course, this indirect heater is of no help, no value.

Second, there's the cup-line electric preheater that's standard for a burner made for No. 6 oil. Heating only oil that goes to the atomizing cup, this does no good easing pumping and regulation of oil with the boiler cold. It doesn't help the burner's oil pump, groaning handling cold oil.

V. M. M., Norwalk, Conn.

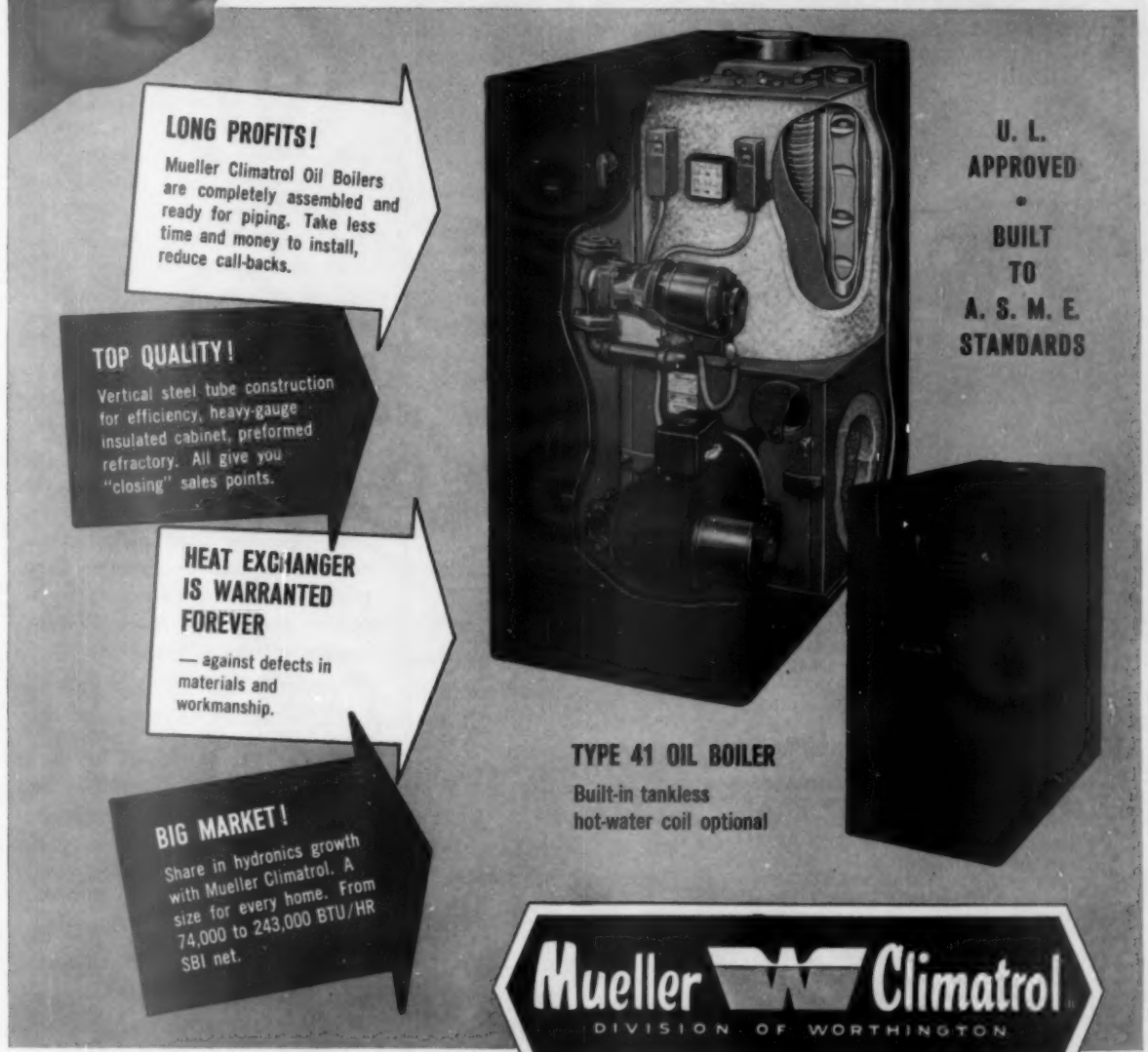
A. Many burner men are ending such cold start-up problems by following advice that appeared several times in FUELOIL & OIL HEAT. Here it is again: In the suction line and fairly close to the oilburner, install two or three electric oil preheaters in series. Each must have a thermostat to make it automatic. Total preheater capacity should be great enough for at least a 50°F. temperature rise for all the fuel-oil pumped.

With the boiler stone-cold, give its burner fueloil that's at 120°F. or 140° F., instead of giving it No. 6 oil at a room temperature of only 60°F. to 70° F. That will greatly improve the cold start-ups!

Q. This manufacturer seems to have produced an oilfired forced-air furnace with built-in flame-pulsation trouble. The factory instructions say one of three things must be done to end the pulsation trouble: 1) Leave open the flame-observation door, or 2) Install a 2" pipe nipple at each side of the burner gun tube to admit basement air

HYPO FOR YOUR HYDRONICS BUSINESS!

Mueller Climatrol Packaged Oil Boilers



LONG PROFITS!

Mueller Climatrol Oil Boilers are completely assembled and ready for piping. Take less time and money to install, reduce call-backs.

TOP QUALITY!

Vertical steel tube construction for efficiency, heavy-gauge insulated cabinet, preformed refractory. All give you "closing" sales points.

HEAT EXCHANGER IS WARRANTED FOREVER

— against defects in materials and workmanship.

BIG MARKET!

Share in hydronics growth with Mueller Climatrol. A size for every home. From 74,000 to 243,000 BTU/HR SBI net.

U. L. APPROVED

•

BUILT TO A. S. M. E. STANDARDS

TYPE 41 OIL BOILER

Built-in tankless hot-water coil optional

Mueller Climatrol

DIVISION OF WORTHINGTON

Call or write your nearest Mueller Climatrol sales office for more information.

2023 W. Oklahoma Ave.
Milwaukee 1, Wis.

1024 Westminster Ave.
Alhambra, Calif.

Other hydronic sales-builders in America's most complete heating and cooling line:

MC-15

GAS BOILERS UP TO 4,200,000 BTU INPUT

GAS AND OIL CONVERSION BURNERS

GAS- OR OIL-FIRED UNIT HEATERS

SUMMER AIR CONDITIONING

WATER- OR AIR-COOLED CONDENSING UNITS

BLOWER COIL FOR COOLING AND WET OR ELECTRIC HEAT

FAN COIL UNITS FOR RESIDENTIAL APPLICATIONS

to the firebox, or 3) Install a 6" pipe around the burner's 4" gun tube, providing an open air passage between them, also to let basement air flow to the firebox.

Two important difficulties result from using any of the three pulsation "remedies." First, burner starts produce plus pressures in fireboxes, and each of the three kinds of prescribed openings permits oil gas, and smoke, and soot to pour out of the furnaces. Soot really piles up around the furnaces! Second, basement air flows willy-nilly into the openings, reducing CO_2 of flue gases and increasing oil bills greatly.

What's a good pulsation remedy?
T. J. U., Libertyville, Ill.

A. In view of the fact that the manufacturer of the furnace has not found a good method for coping with its flame-pulsation trouble, no good method may apply to the furnace. We suggest you try different combustion heads for the pressure burner, and different firebox designs. If you use the 2" pipe nipples, try packing them loosely with rock wool so that less soot escapes through them into basements. Use screening to keep the rock wool in place.

Q. What can cause sharp clicking sounds together with bubbling noise in the top of a horizontal 200-gallon hot-water tank (connected to an indirect heater in an oilfired boiler) when a hot-water faucet is opened wide? Even though the tank is well insulated, the occupants of this large, luxurious residence are much annoyed by the "talking hot-water tank" and want me to quiet it.

B. K. S., Madison, Wis.

A. Probably to begin with the cold water entering the tank contains great amounts of dissolved gases, and in addition the water pressure is uncommonly high, above 60 lbs. pressure. A supply line that's small or somewhat clogged may provide the fresh, cold water for the tank.

When a hot-water faucet is opened wide, the pressure in the tank drops suddenly and greatly with the result that the gases (previously dissolved) are released from the water. Bubbles hit the top of the tank and make the noise.

If a pressure gage applied to the tank shows that its pressure drops greatly when a hot-water faucet is opened wide, check for a small or clogged cold-water line to the tank, which needs replacement by a larger cold-water line.

Such trouble has been ended by the installation of a pressure reducing valve in the cold-water line of a tank, where to start out the tank pressure was unusually high.

Probably your customer wants only a good explanation for the trouble—not an expensive way to end it.

Q. If you print this, sign it "Disgusted" because I don't want to be identified properly by city and initials.

Why do certain manufacturers of furnaces and boilers make cleaning the flues of their units difficult, almost impossible and very time-taking and costly. I mean that some of these manufacturers don't provide easily-opened flue clean-out doors to permit easy and quick brushing down or

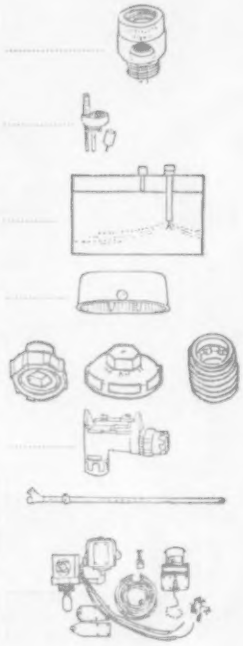
(Please turn to page 110)

GREATER SPEED, FOR GREATER PROFIT, THROUGH THE *SCULLY* SYSTEM

Every unit of the SCULLY System has been built to combine maximum speed and efficiency in every fuel oil delivery. And even more important, each unit has been engineered as part of a complete and dependable system, the only delivery system available. SCULLY products bring you the extra profits that come with the world's fastest fuel oil delivery equipment.

1. VENTALARM Signal. The original whistling tank fill signal. Over five million now in use. Available for old and new tank installation.
2. VENTALARM Gauge. Money-saving 2-in-1 combination for new burner installations. One single unit combining the original VENTALARM Signal with a Tank Gauge.
3. Deep filling with FILFUL eliminates foaming, making it possible to stop cut-off of the whistle by rising foam. This feature enables filling to the proper level and increasing the fill as much as 50 gallons.
4. SAFETY VENT CAP. An improved cap for 1" and 1¼" vent pipes that amplifies VENTALARM Signal sound. Provides 50% more venting area than I.D. of pipe.
5. UNIFIL SYSTEM. The tight connection delivery system that pays for itself and returns a profit in the first year. Over ten exclusive features.
6. COM NOZZLE. A single rugged unit that has revolutionized nozzle design: lighter, faster, easier to repair, and with minimum hydraulic shock.
7. VENTAFIL. The portable combined fill, vent and signal for underground tanks. Built for fast pumping speeds without blowbacks. Light and rugged.
8. COMBINATION SCULMATIC-SCULTROL. The only combination that provides absolute flow control and pressure-limiting control.

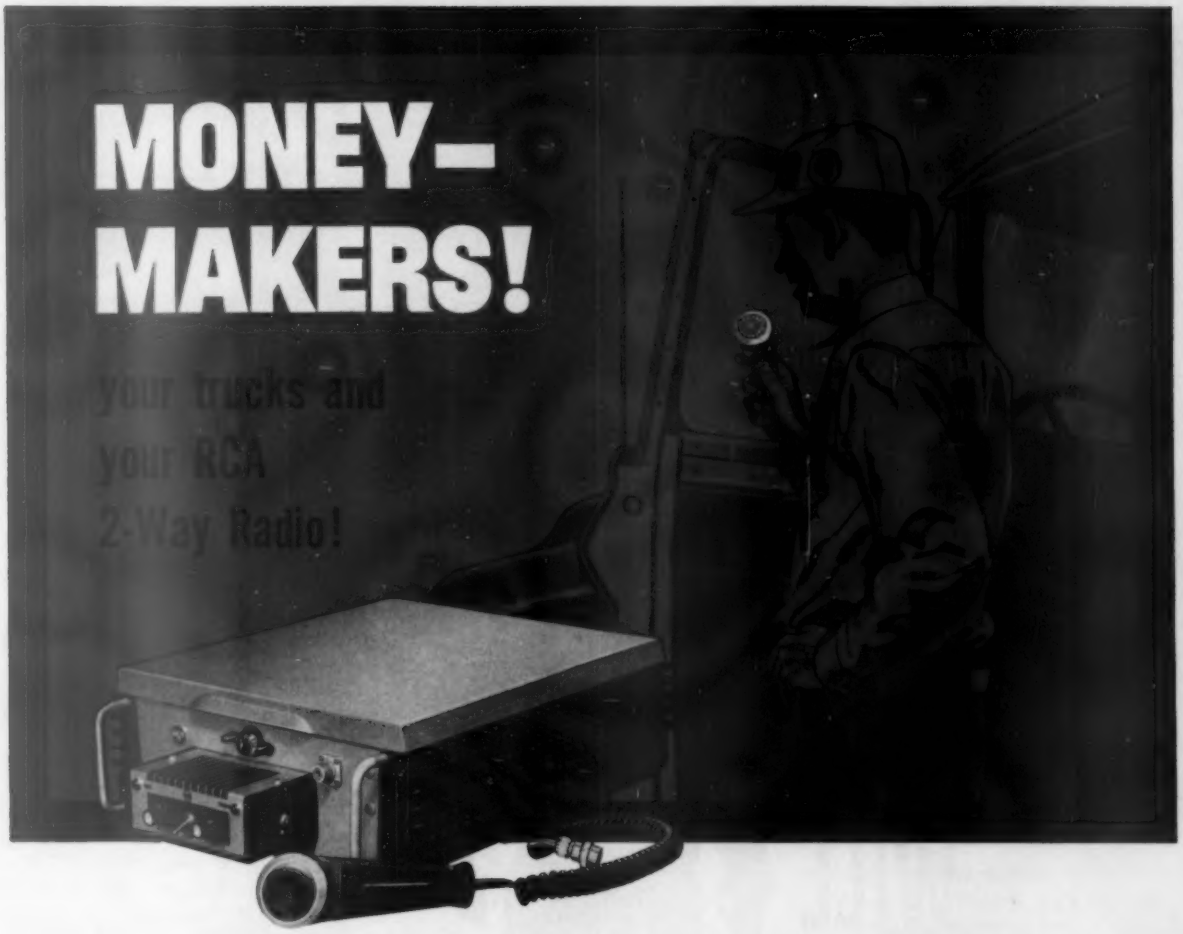
See for yourself why SCULLY after 25 years, is still the industry's leader. Call NOrmandy 5-3900 for more information about any SCULLY products — and the unique SCULLY System.



SCULLY SIGNAL COMPANY
MELROSE 76, MASSACHUSETTS
IN CANADA: E. S. Gallagher Sales, Ltd., 10 Hollis Rd., Toronto, Ontario

©1961 SCULLY Signal Company

(All Names in Capitals except FILFUL are Registered Trademarks of the Scully Signal Company)



Your business depends on *calls* and service. That's why a radio-control system is so important. RCA 2-Way Radio can make money for you by assuring quick-as-a-button response to customers, by eliminating driver telephone expense, and by preventing back tracking and deadhead mileage. RCA and dependability have long been synonymous—ever since World War II, in fact, when rugged RCA communications equipment proved it could take it . . . under the toughest of operating conditions.

It took experience and daring to bring you today's new RCA 2-Way Radios. It meant discarding preconceived notions about circuits and redesigning with transistors in key places for reliability with economy. And it involved engineering a host of other advanced features to assure fine message intelligibility, and long component life, at moderate cost. Every business can now enjoy the money-making advantages of "LD" (Low battery Drain) equipment—today's greatest value in 2-way radio—with RCA service technicians available to keep equipment operating at its peak. Send coupon for information about RCA 2-Way Radio in your business.

The Most Trusted Name in Radio

RADIO CORPORATION OF AMERICA

RADIO CORPORATION OF AMERICA
Telecommunication Center, Dept. T-252
Meadow Lands, Pa.

☐ Please send me FREE literature on the new RCA Transistorized Mobile Radio.

☐ Have RCA Communications Specialist contact me and explain why this is today's best value in 2-way radio.

NAME _____ TITLE _____

COMPANY _____

TYPE OF BUSINESS _____

ADDRESS _____ PHONE _____

CITY _____ ZONE _____ STATE _____

Penn Boiler Division completing Expansion

PENN BOILER DIVISION, Pebbco Industries, Inc., Lancaster, Pa., has just completed an 18,000 sq. ft. plant addition.

The addition is part of a major expansion program, according to Al Morrison, Jr., Pebbco president, and will be used to house new in-line packaging facilities and equipment for residential and commercial heating boilers. A 30% increase in production is anticipated as a result of the addition.

HAVE TX WILL TRAVEL

He makes the fastest fill in town. With the famous Blackmer TX Truck Pump backing him up, he gets fast delivery, spends less curb time, makes more deliveries per day. He *really* travels around his route. His secrets: a high capacity TX pump delivering up to 100 GPM, sliding vanes which are self-compensating for wear, new O-Ring and mechanical seals to prevent leakage and maintain efficiency, many other features. Put the TX at the heart of a well-designed fuel oil delivery system and you'll travel, too. Talk to your Blackmer distributor about the system or write for Bulletin 200

"liquid materials handling"® equipment

BLACKMER / truck pumps

BLACKMER PUMP COMPANY, GRAND RAPIDS 9, MICHIGAN

Find your Blackmer Man under "Pumps" in the Yellow Pages

Robert E. Casner has been made a vice-president of Crane Co., Chicago, and has been appointed as general manager of the Plumbing, Heating Air Conditioning Group located in Johnstown, Pa. He had been vice-president, Townsend Co., Beaver Falls, Pa., and previously had held positions in sales, manufacturing and administration with this company.

D. D. Williams has been named sales manager, central airconditioning products, Albion Div., McGraw-Edison Co., Albion, Mich. He has been with the Division for almost three years as regional manager in the southeastern region.

James W. Walker has been named sales representative for Neptune Meter Company's Dallas, Texas office to service accounts in Texas and Oklahoma. Louis P. Pisani has become a Neptune sales representative covering central and northern California.

Norris Blanchard Co., Omaha, Neb., has been appointed manufacturer's representative for Stewart-Warner's Heating and Air Conditioning Div. The Blanchard Co. will serve Nebraska, Iowa and southern South Dakota. *Ken Magarrell* recently joined Blanchard handling accounts in northern and western Iowa, eastern Nebraska and southern South Dakota.

NEW PRODUCTS

From American-Standard Air Conditioning Division

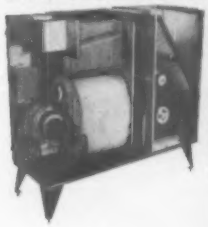
NEW OIL LO-BOY SHIPPED FULLY ASSEMBLED WITH BURNER AND CONTROLS

This all-new oil-fired Model L-OB is factory pre-wired, pre-assembled and pre-tested, including the ACD oil burner. It is practically a "plug-in" unit. You bring in the oil line and electrical wiring—then just connect up and start up! It's that simple.

The L-OB is a truly compact furnace, 40¾" low, 20-27" wide and 54⅞" deep. The four models of the L-OB are rated at 84,000—95,000—112,000—and 140,000 Btuh. The largest capacity model—140,000 Btuh—is only 27" wide and can fit through any average door.

Underwriter listing on complete unit

The design and construction of the L-OB has Underwriter listing not only on its separate components, but also as a complete, assembled unit. The primary control, fan-and-limit control and burner are completely factory installed and wired. The primary control uses a new burner-mounted heat-sensing device with all these major advantages: a.) avoidance of troublesome variable stack mounting conditions; b.) positive performance, unaffected by soot, vibration, stack corrosion or drafts; c.) responds directly to heat of the flame for safe, fast action; d.) service calls minimized because flame detector is hermetically sealed and not affected by high temperature, does not age or require periodic replacement; e.) elimination of on-the-job stack primary installation saves time, money, materials.



Features of the L-OB

NEW SECTIONAL HEAT EXCHANGER. Is air-pressure tested; provides minimum draft loss, maximum efficiency, makes compact size possible.

ACD OIL BURNER. Dealers tell us its service and performance record is unsurpassed in the industry.

NEW COMBUSTION CHAMBER. All stainless steel, with all seams arc-welded.

AMERICAN-STANDARD BLOWER. Powerful, quiet, with sufficient capacity for add-on summer air conditioning.

ADJUSTABLE STEEL LEGS (& BOTTOM PAN). The legs (optional) speed installation, cut costs, level and protect furnace from wet floors. The heavy gauge bottom pan strengthens the furnace, keeps out floor dirt and dampness.

NEW EASY-ACCESS PANELS. The lift-off front door and back door provide complete and unobstructed access to controls, burner, blower, filters.

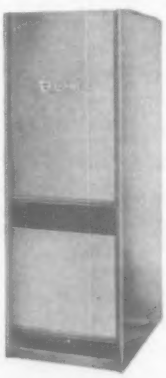
New De Luxe American-Standard Mercury Thermostat— Standard equipment on all units.

Get the data sheets and price list on the L-OB from your American-Standard Air Conditioning Division Distributor today.

American-Standard and Standard® are trademarks of American Radiator & Standard Sanitary Corporation

AMERICAN-Standard
AIR CONDITIONING DIVISION

PRIDE OF OWNERSHIP starts early...lasts a lifetime! You understand it. So do your customers. It represents the **satisfaction** that comes from owning a prized possession...one that represents the best efforts of its maker. **PEERLESS** furnaces and air conditioning equipment have earned that kind of customer appreciation. And, it pays off for dealer, builder, contractor and home owner. Everyone appreciates and benefits from **quality.**



PEERLESS CORPORATION
1853 LUDLOW • INDIANAPOLIS, INDIANA

✻NOW 4 locations to better serve the growing family of Peerless customers

INDIANAPOLIS INDIANA | DOWAGIAC MICHIGAN | ATLANTA GEORGIA | TAMPA FLORIDA

NEW PRODUCTS

Motorola adds desk top Models to its two-way radio Line

DESK TOP and high powered models have been added to the expanded Motorola two-way radio line.

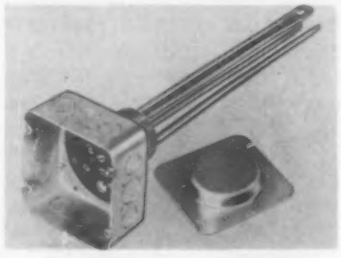
The table top unit is the Consolette station. It measures 15″ long, 18″ wide and less than 9″ high; weight is 40 lbs. The Consolette station provides 25 watts output with systems operating on 144-174 mc frequencies and 30 watts on 25-54 mc frequencies.

The high powered station utilizes a 300 watt transmitter, highest powered unit in Motorola's standard line.

Made by: Motorola Inc., 4501 West Augusta Blvd., Chicago 51, Ill.

Replaceable heat element for industrial hot water tanks

THERMO-CRAFT MODEL 162 incorporates 3 individually replaceable hairpin elements for single or 3-phase wiring and a total output of up to 21 kw. With a watt-density of up to 150W per sq. in., Model 162 has been designed to replace 2″ IPS (iron pipe size) one-piece screw-plug and multi-element units in industrial hot water heating or steam generation applications.



Each element, varistor-protected and copper sheathed, blasts off heavy lime accumulations at the start of each heating cycle due to the shock value of the high heat density, according to the manufacturer. Unit can be used in most commercial hot water and steam generation tanks.

Made by: Thermo-Craft Electric Corp., 429 E. 164th St., New York 56, N. Y.

T832

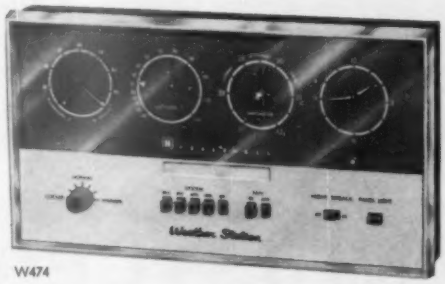
On every service call . . .

SELL-UP to the Honeywell Day-Nite Round Thermostat

Y379

For all quality new construction . . .

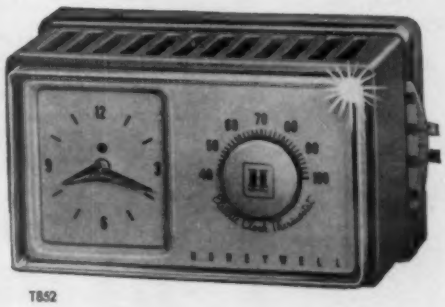
SELL-UP to the Honeywell Indoor-Outdoor System



W474

On every air conditioning job . . .

SELL-UP to the Honeywell Weather Station



T852

On every modernization job...

SELL-UP to the Honeywell Electric Clock Thermostat

MAKE EVERY OPPORTUNITY PAY

Sell UP!

Honeywell

First in Control

SINCE 1885

fuel oil & oil heat

IT'S NEW
IT'S POWERFUL
IT'S THE
HARVEY SHORTY

FURNACE AND INDUSTRIAL VACUUM CLEANER

It's the new compact Shorty that delivers big cleaner performance in a small package. Its 20¾" height enables it to be carried upright in even the smallest luggage compartment. The Harvey Shorty has a powerful ⅞ HP motor that provides plenty of suction. Two inside dust bags give you better filtering action and positive protection against costly blowouts. The Shorty holds up to ½ bushel of soot and dirt, enough for the average cleaning job. The one hand carrying grip makes it a honey to handle.

HARVEY FLAT TOP FURNACE VACUUM CLEANER

Sid Harvey's big cleaner comes in two models, Junior and De-Luxe. Both have all the desirable features of the Shorty, with greater capacity. The De-Luxe holds one full bushel of soot or dirt, the Junior has ¾ bushel capacity. Heavy duty casters make it easy to handle.

TRADE PRICES — Complete with Attachments

Harvey Shorty	$ 95.50
Harvey Flat Top Jr.	99.50
Harvey Flat Top De-Luxe	111.65

ATTACHMENTS and SPARE PARTS for other cleaners such as Doyle, G-E, Kent, Nu-Vac, Premier, Pullman, Super-Suction and Tornado.

Write for Sid Harvey's CLEAN-UP TIME. It's a booklet that lists the essential tools and supplies needed for furnace and boiler clean-ups . . . . . FREE to the trade.

AVAILABLE AT ALL SID HARVEY STORES

SID HARVEY INC.
VALLEY STREAM NEW YORK

Airtemp offers high capacity units for split systems

TWO AIR COOLED condensing units for split system installations, a 10 hp model 1212, and a 15 hp model 1216, are being offered by the Airtemp Division of Chrysler Corp.

The 1212 has a 114,000 Btu capacity when used with Chrysler 1412 cooling coil which delivers 4,000 cu. ft. of air per minute. It can also be matched with two 1408-03 cooling coils, for zone control.

The 1216 condensing unit can be matched with the 1416 cooling coil, which results in 154,000 Btu and 6,000 cfm, respectively. Paired with two 1489 cooling coils, the 1216 delivers 166,000 Btu.

Both units use a 5-cylinder compressor, operate at 120°F outside temperature and will run when voltage has been reduced as much as 10%. A separate receiver and strainer-drier is standard on both, as is a hot gas by-pass which permits light load operation without coil freeze-up.

Safety controls are reset at the thermostat. 1212 weighs 1,007 lbs. and uses a pair of 20" prop fans which operate at 1,150 revolutions per minute. 1216 weighs 1,112 lbs. and is equipped with two 24" fans which run at 825 rpm.

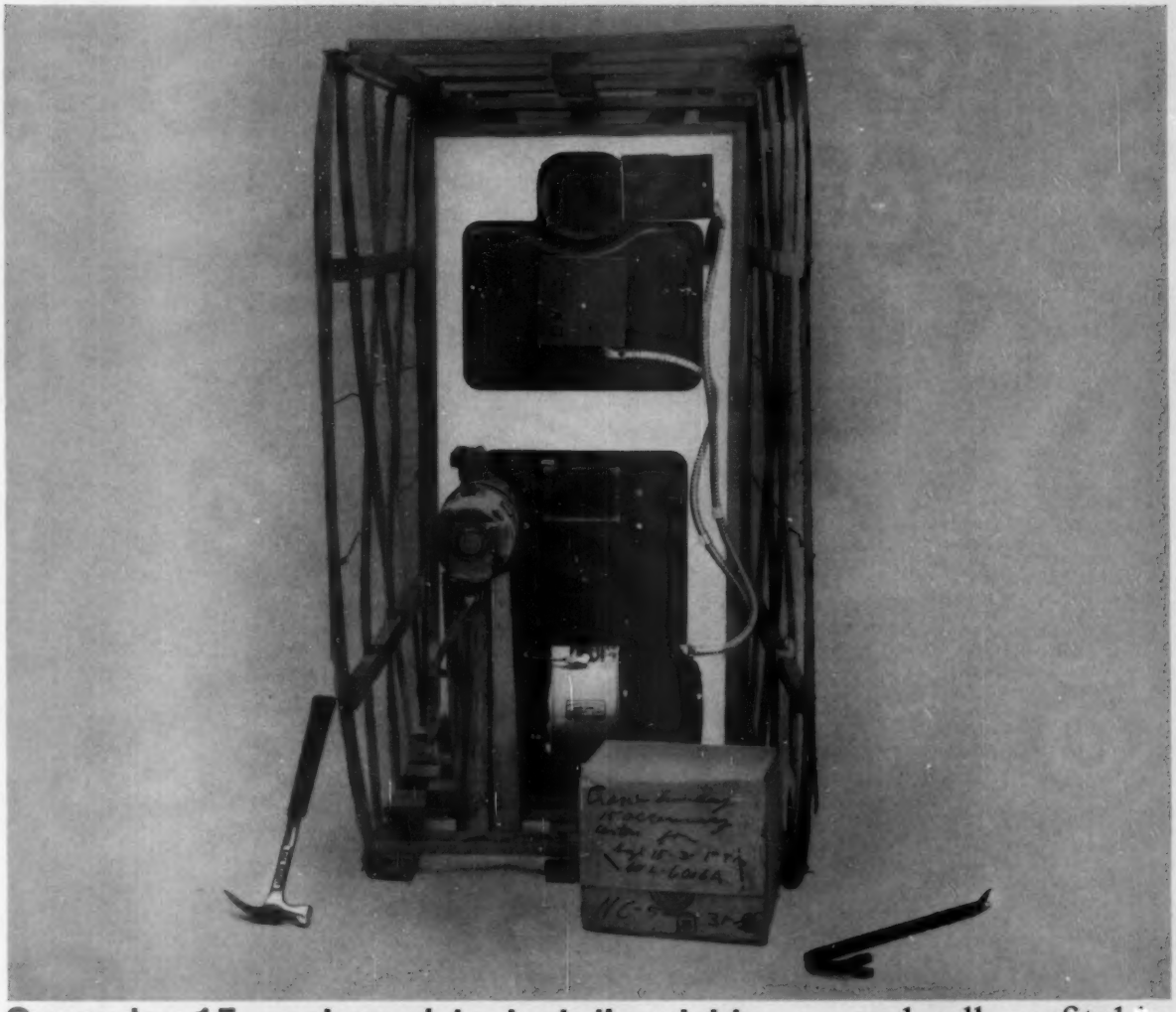
Both condensing units have controls to assure operation down to 55°F outside temperature.

Made by: Airtemp Division, Chrysler Corp., P. O. Box 1037, Dayton 1, Ohio.

WHISTLER

Model E, the only whistle you can install without disturbing the present piping. Model D for new installations.

APPLIED MECHANICS COMPANY
381-389 CONGRESS ST., BOSTON 10, MASS.



Sunnyday-15 packaged to install quickly . . . and sell profitabiy. Ideal for boiler replacement business. "Wet base" design lets you put it on any type of floor. So reliable, service calls are all but eliminated.

The Sunnyday-15 arrives ready-to-go. You open the crate. Set it on the floor. Make four simple connections and turn on the heat.

Controls are simple. Versatile. Easy to reach. Operation quiet and completely dependable—with fuel savings of up to 15¢ in every fuel dollar.

To protect against corrosion and insure a long trouble-free life, the boiler is constructed of cast iron. And there are four different models to choose from — each with optional tankless hot water heater. You can select the right capacity . . . even allow for future expansion of the heating system.

And while you're selling the Sunnyday-15, there's a good opportunity for even better profits. You can offer your customer the advantages of modern, perimeter heating.

Take along a Crane catalog. Show your customer the wide choice of decorator-styled Sunnybase — compact baseboard heating panels that will modernize his home. That will give him more efficient heat. More floor space. A cleaner house.

For complete details on Crane's complete line of high quality hot-water and warm-air heating equipment, see your regular supplier. Or write directly to Crane Co., Plumbing-Heating-Air Conditioning Group, Box 780, Johnstown, Pennsylvania.

AT THE
HEART
OF HOME AND
INDUSTRY

CRANE

VALVES AND PIPING
ELECTRONIC CONTROLS
PLUMBING
HEATING • AIR CONDITIONING

NOW! AN INDUSTRIAL CLEANER WITH

REAL PORTABILITY

THE SOOTMASTER 601-8

New Elastic Top Reusable Filter Bag — Snaps on or off filter unit for quick easy cleaning.

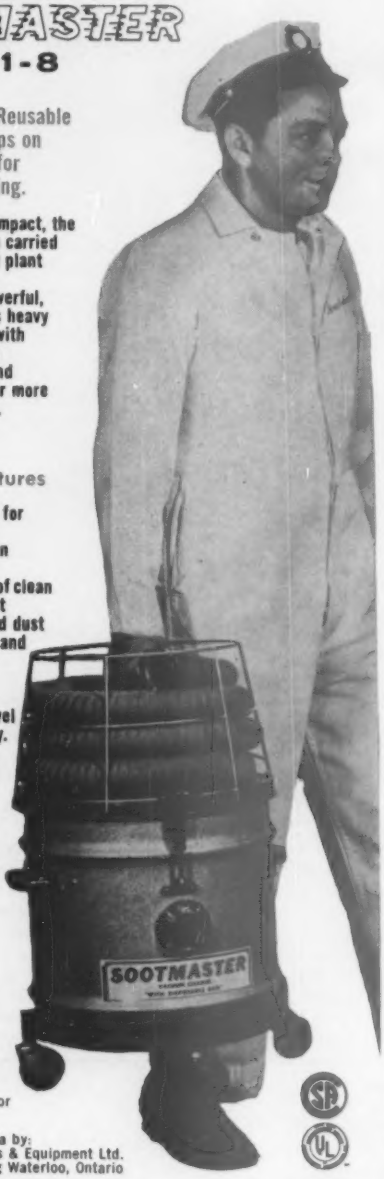
- Lightweight and compact, the 601-8 can easily be carried from job to job and plant to plant.
- Convenient and powerful, the 601-8 combines heavy duty performance with real handling ease.
- More economical and efficient than larger more expensive cleaners.

MORE Important Features

- Maximum filtration for lasting suction.
- Powerful turbine fan suction unit.
- Controlled exhaust of clean filtered air does not disturb accumulated dust on basement walls and rafters.
- Finger-touch maneuverability — dollie has four swivel casters for stability. (the 601-8 can be ordered as an economy model without casters)
- Complete line of cleaning attachments are on the shelves of leading distributors.

MACHINE COMES COMPLETE WITH

- 10′ duck covered hose.
- 27″ furnace cleaning tool.
- handy hose carrying cage.
- 10 reusable paper filter bags.



Jobber and Distributor Inquiries invited.

Distributed in Canada by: Imperial Refractories & Equipment Ltd. Refractories Building Waterloo, Ontario

There is a Mastercraft Industrial Cleaner for every maintenance job. Write today for descriptive literature.

mastercraft INDUSTRIES INC.

109 Lanza Avenue · Garfield, New Jersey

Dietz static pressure Control is air-fuel interlock Switch

DIETZ Cat. 114P static pressure control is designed as an air-fuel interlock switch for use in packaged steam generators to stop fuel flow when a hazardous condition exists.

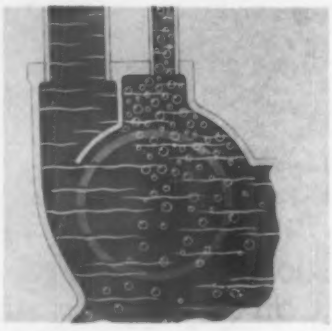
The control's contacts usually are wired in series with the solenoid of the oil shut-off valve, so that the valve will stop fuel flow unless the blower is supplying proper draft.

Switch is adjustable over a range of .1″ to .5″ water column static pressure. Electrical ratings are 15 amps. at 120-250 volts AC, ⅛ hp or 125 volts amps. pilot duty.

Made by: Henry G. Dietz Co., Inc., 12-16 Astoria Blvd., Long Island City 2, N. Y.

Air Eliminator now furnished with Arcoleader oil Boilers

A BUILT-IN air eliminator has been introduced by American-Standard. Known as Eliminaire it is now furnished at no extra cost on Arcoleader oil boilers for hot water heating systems.



The Eliminaire is an integral part of the section casting, designed to divert air bubbles into the pipe leading to an expansion tank or air vent, eliminating the need for dip-tube or in-line accessories.

Made by: American-Standard, Plumbing and Heating Div., 40 West 40th St., New York 18, N. Y.

Combination Envelope and Calendar by Envo-Cal speeds up Collections

A DEVICE calculated to stimulate weekly, bi-weekly or monthly payments is a combination envelope and calendar. It includes 12, 26 or 52 envelopes with extended flaps to include payment slips with company imprint and a gummed area for sealing. A weekly, biweekly or monthly calendar is printed on the pocket side.

Face side of the envelope has the printed name and address of the company, printed postage-free indicia, if desired; each envelope is removed by tearing along a perforated edge.

Made by: The Envo-Cal Co., 80 Morris Ave., Springfield, Mass.

Successful oil burner operation depends on

A RELIABLE ARC

GENERAL ELECTRIC'S IGNITION TRANSFORMER PROVIDES IT!

General Electric Ignition Transformers generate one of the highest crest voltages in the oil heating industry.

They are designed to give you a positive, safe 10,000-volt arc every time. They normally deliver an efficient spark even when input voltage drops, electrodes are fouled, low-grade oil is used, or when low temperatures cause oil to thicken.

And the spark you get is of uniform intensity. Specially developed core laminations help to provide the perfect arc . . . not so high as to cause electrode deterioration, yet high enough to sustain ignition.

Whether you build, sell, or service automatic oil burners, specify General Electric Ignition Transformers . . . dependable units you can install and forget!

OTHER OUTSTANDING ADVANTAGES

Low Cost—General Electric transformers are competitively priced . . . you get G-E quality at no extra cost.

Two-year Warranty—G.E. stands behind its transformers with a special two-year warranty from time of manufacture against defects in design, materials, and workmanship.

Custom-designed Mounting—Mounting arrangements can be tailored to meet your requirements. Examples: open slot, hinge, stud, or hinge-clip.

Interference Reduced—Two-way shielding on G-E transformers curtails radio-television interference.

For more information on General Electric's Ignition Transformers, contact your G-E Sales Engineer or Distributor, or write for Bulletins GEA-7017 and GEA-7054 to section 413-10, General Electric Co., Schenectady 5, N. Y.

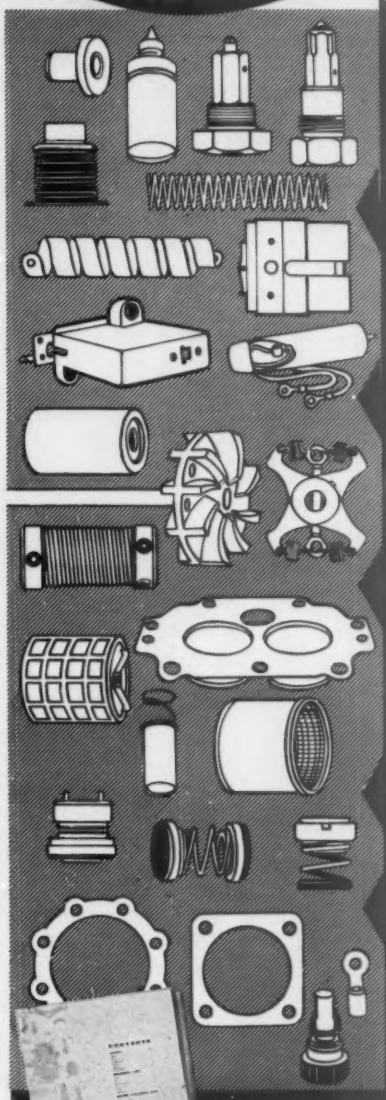
Progress Is Our Most Important Product

GENERAL ELECTRIC

General Electric's Ignition Transformer designed to strike a reliable arc every time!

Hydrovalve's
REPLACEMENT
PARTS

...because
Precision Engineering together with Modern Factory Inspection Methods — are your assurance of
LONG-LASTING, TROUBLE-FREE PERFORMANCE!



FUEL UNIT PARTS
CONTROL PARTS
CIRCULATOR PARTS
STRAINERS
SHAFT SEALS
GASKETS & IGNITION TERMINALS

Hydrovalve CO., INC.
1319 Utica Avenue, Brooklyn 3, N. Y. / NAvarre 9-1234

Smith-Mills 2500 Boiler for medium-sized Buildings

SMITH-MILLS 2500 boiler-burner unit for No. 2 oil is offered in six sizes with net steam ratings ranging from 339,100 to 721,700 Btu/hr in steam and hot water models.

These sectional boilers feature vertical water tube construction with extended fin surfaces and a special matched design of oilburner and prefabricated combustion chamber.

Firing rates range from 4.45 to 9:25 gph; optional tank or tankless heaters are available. The tankless heater sizes run from 4 to 12 gpm.

Made by: H. B. Smith Co., Inc., Westfield, Mass.

Atlantic hot water Generators include heating Unit and Boiler

THE ATLANTIC automatic hot water generator is meant for installations requiring a large volume of hot water. Units include a forced draft burner and controls mounted and wired, water mixing valve; shipped ready for connection to water and electric service.

The generator, which needs only a small exhaust outlet for its burner, comes in seven sizes to handle peak recovery rate of 550 gph to 2100 gph. Maximum height of the largest unit is 58″; units are mounted on steel channels.

Made by: Atlantic Steel Boiler Co., 22nd & Washington St., Philadelphia 46, Pa.

"Lemme see that address again."

In action, the LeFebure Degree Day Accounting System is far more than an efficient accounting system. It is a complete program of business administration, co-ordinating the many phases of bulk fuel operation into a system of simple routine.

LeFebure's *one card* system schedules *automatic delivery*, records *accounts receivable* and schedules and accounts for all consumer services performed by your *service department.*

With all its advantages, the LeFebure Degree Day Accounting System is extremely easy to operate. Everything is on one card, in one place. And this one card is designed to accept an Addressograph plate as an integral part . . . eliminating the possibility of error in mailing statements.

It's not surprising that bulk fuel companies using LeFebure Degree Day Programming have enjoyed lower operating costs, tighter administrative control and better customer service.

For literature illustrating *why* bulk fuel companies have enjoyed increased business efficiency with LeFebure Degree Day Programming . . . and *how* this system will work for you, write today to LeFebure Corporation, Cedar Rapids, Iowa.

LeFebure®
BUSINESS SYSTEMS AND EQUIPMENT

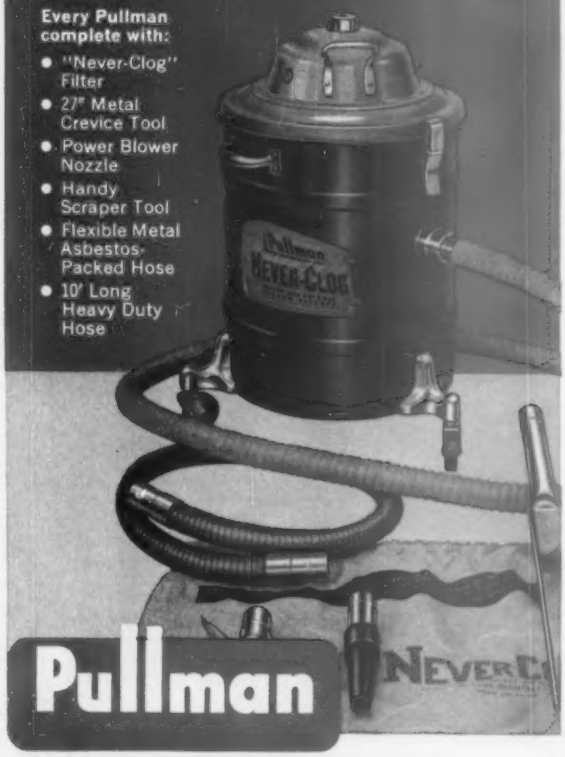
LeFebure is a subsidiary of Craig Systems, Incorporated

GUARANTEED PERFORMANCE PULLMAN with exclusive "NEVER-CLOG" FILTER

Designed for furnace cleaning! "Never-Clog" filter guarantees constant maximum suction. Sized right . . . fits car trunk, carries easily in one hand. Versatile tool kit included. Use Pullman . . . the vac backed by a generation of furnace cleaning experience.

Every Pullman complete with:

- "Never-Clog" Filter
- 27" Metal Crevice Tool
- Power Blower Nozzle
- Handy Scraper Tool
- Flexible Metal Asbestos-Packed Hose
- 10' Long Heavy Duty Hose



PULLMAN Vacuum Cleaner Corp.
25 Buick St., Boston 15, Mass.

Send further Information to:

Name.....

Street.....

City.....State.....

FIRST IN SALES THROUGHOUT THE WORLD.

Oil demand meter measures both heating, hot water needs

A FUELOIL DEMAND METER that measures requirements for both heating and hot water needs has been introduced by Johnson Degree Day System. Two electronic tabulators provide the information. Customers using fueloil for heat only are delivered according to the left tabulator that records all factors entering into fuel demand including wind, sun, rain, snow as well as temperature; customers using fueloil for hot water, too, are delivered according to the right hand tabulator which automatically adds such needs to the degree days.

Seasonal variations in hot water needs are taken into account by the tabulator, Model ZZ-1.

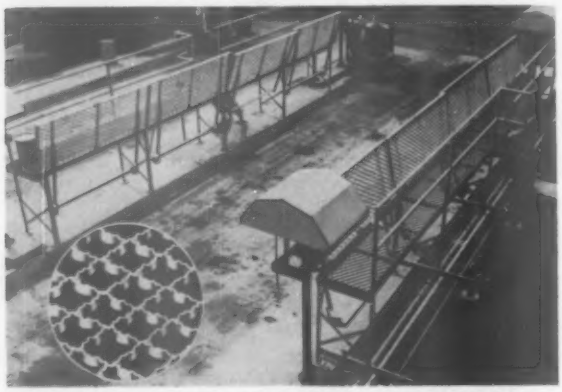
Made by: Johnson Degree Day System, Kalamazoo, Mich.

Skinner announces explosion-proof solenoid valves

SKINNER ELECTRIC Valve Division has announced a line of 3-way explosion-proof solenoid valves with a ½" main orifice and ½" NPTF for use in hazardous locations. These high-flow valve types are available normally open, normally closed and directional control, with operating pressure differentials of 5 to 150 psi.

The ½" explosion-proof valves of the L Series have naval forged brass bodies and internal parts of brass and stainless steel. They are available in a range of voltages and frequencies.

Made by: Skinner Electric Valve Division, Skinner Precision Industries, Inc., New Britain, Conn.



This special catwalk was designed for a large oil distributing concern for cleaning slippery sided oil trucks. A series of counter-balanced non-slip platforms are hinged to and extend out from the catwalk. As the maintenance worker steps off the catwalk onto the platform, it drops down level with the catwalk, enabling the worker to walk out to work on the truck. The counter-balance automatically lifts the platform out of the way when no one is on it.
Made by: Bustin Steel Products Inc., Dover, N. J.

SALESMANSHIP
is the ART of
SELLING

and greater SALES
mean more PROFITS

Here's a book edited for those new in selling and to help your present salesmen improve their effectiveness.

It is a course in specialty salesmanship based on tested sales principles and techniques.

"THE SELLING MAN"

Author:
WILLIAM ANGUS MATHESON
"Supersalesman"

The author does not think in generalities; but rather, the wisdom in this book is specific and of a type that can be adapted to each situtation that is met in sales work.

The book contains 260 pages, is 6 x 9 inches with blue cloth binding.

Don't miss this opportunity to arm your sales staff with fresh knowledge.

ORDER YOUR COPIES NOW
At the special low price of $4.00
(Regular price $5.00)

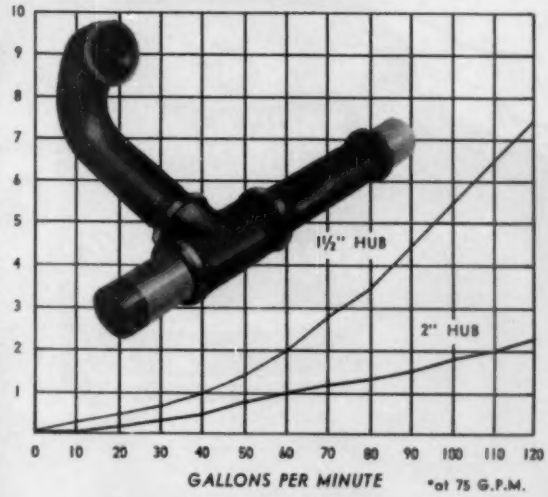
Please include 25c for postage and handling.

Send your remittance to:

fueloil & oil heat
2 WEST 45th ST., NEW YORK 36, N. Y.

Did You Know?

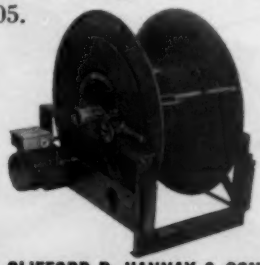
REELS WITH 2 inch HUB ASSEMBLIES CAN REDUCE LINE PRESSURE LOSS UP TO 58%*



*at 75 G.P.M.

Hannay Hi-Capacity reels are specifically designed to drastically reduce the pump pressure head required to deliver at flow rates from 50 to 150 G.P.M. The chart above graphically demonstrates the reduction in pressure loss through the reel when 2" hubs are used instead of the conventional 1½" hub. Installed with high performance pumps, meters and other components, these reels will give you top efficiency from tank to nozzle.

For complete specifications and prices, see your equipment dealer or write for FORM H-205.



REELS BY HANNAY

CLIFFORD B. HANNAY & SON, INC.
WESTERLO, NEW YORK

ZONE-A-TROL

LETS YOU CONTROL THE TEMPERATURE and your COMFORT IN EVERY ROOM

ZONE-A-TROL STRAIGHT Flo VALVE

VIKING

AUTOMATICALLY CONTROLS THE FLOW OF HEATING TO EACH ROOM OR ZONE

For MODERNIZATION OR NEW CONSTRUCTION

THE MODERN STANDARD OF INDOOR HEATING AND COOLING COMFORT

For more information, write

ECONO PRODUCTS COMPANY, INC.

Division of Viking Instruments, Inc. East Haddam, Connecticut

COMFORT CONTROL by ZONE-A-TROL

A Complete Line of Zone Controls

For Every Heating and Cooling System

GE adds replacement ignition transformers for oil burners

GENERAL ELECTRIC has added three replacement ignition transformers for oilburners to its line. Units are Model 9T62Y1900G2 (bushing on end of base), Model 9T62Y1903G2 (bushing on center of base), Model 9T62Y1901G2 (bushings on end of transformer). Models feature an interchangeability of accessories, and offers a choice of more than 400 combinations to meet replacement transformer requirements.

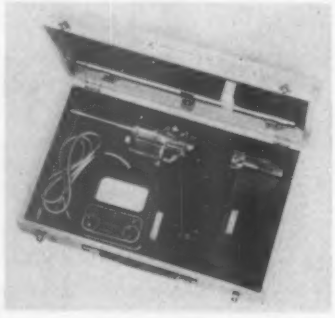
Units feature internal wiring compartment, knockout holes for installation, and maximum suppression of radio and TV interference.

These 3 basic units are rated: primary —115 volts, secondary —10,000 volts, KVA —0.250. Secondary short circuit current is 23 ma. Units, for continuous or intermittent domestic duty on 60-cycle circuits, come equipped with twin high-voltage bushings with male Rajah connectors.

Made by: General Electric Co., Schenectady 5, New York.

Atkins Technical offers portable Psychrometer

A PORTABLE thermistor psychrometer, designed to give precise wet bulb and dry bulb readings for determining relative humidity, absolute humidity, dew point or enthalpy in air and other gases, is offered by Atkins Technical.



The A+ Hygrophil uses tiny thermistor beads as resistance thermometer elements.

Air speed is controlled by a built-in fan system. Air is drawn over the two sensing thermistors, one dry and one kept wet with a built-in wick and water system. Temperature is indicated directly on the three overlapping scales of the meter in increments of ½°F or 0.2°C. System is powered by standard mercury batteries.

The A+ Hygrophil can be used for readings in bases between 10° and 176°F or the equivalent —10° to 80°C.

The unit is supplied in a lined wooden or plastic case complete with barrel extension piece, distilled water container, extra wicks, operating instructions and a booklet of dew point and relative humidity tables.

Made by: Atkins Technical, Inc., 1276 West Third St., Cleveland 13, Ohio.

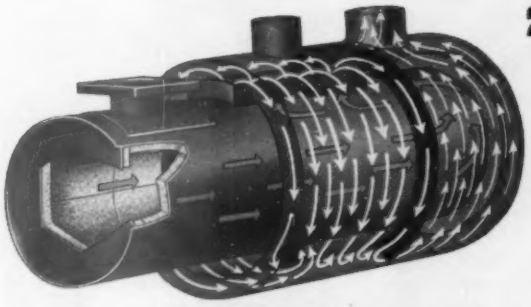
TWO GOOD REASONS WHY ONLY LENNOX CAN OFFER

10% CO_2... ZERO SMOKE

AND UP TO 50% FUEL SAVINGS

1. HI-PERFORMANCE BURNER

Special combustion head and faster, quieter blower combine to deliver absolutely unsurpassed efficiency in the .5 to 1.5 g.p.h. range. There is no pulsation, no smoke . . . and it actually burns the hydrocarbon vapors that normally go up the flue as wasted fuel dollars. Saves up to 50% on fuel cost—by actual field testing. This burner—standard on Lennox oil furnaces in lower capacity ranges —is also available for conversion use.



As used in Lennox STOWAWAY® horizontal Furnace. Similar design used in up-flo, down-flo models.

2. TWO-PASS HEAT EXCHANGER

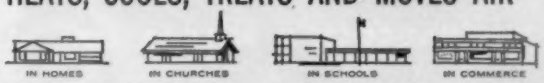
This new heat exchanger takes up the economy story where the burner leaves off! It's designed to utilize the steel surface to fullest advantage—to wring out more heat from the combustion gases. Note how combustion gases are forced to travel twice through the wrap-around surfaces—transferring more usable heat into the bonnet. Results in superior heating efficiency, lower stack temperature and *longer* furnace life!

Hear John Cameron Swayze—speaking for Lennox dealers on ABC radio weekday evenings. If you are not now (and want to be!) a Lennox dealer, write nearest factory for complete information.

Don't be satisfied with less than

LENNOX

HEATS, COOLS, TREATS AND MOVES AIR



LENNOX INDUSTRIES INC., EST. 1895 — MARSHALLTOWN, DES MOINES, IOWA; COLUMBUS, OHIO; SYRACUSE, N. Y.; DECATUR, GEORGIA; FT. WORTH, TEXAS; SALT LAKE CITY, UTAH; LOS ANGELES, CALIFORNIA. LENNOX INDUSTRIES (CANADA) LTD. — TORONTO, MONTREAL, CALGARY, VANCOUVER, WINNIPEG

Quoting on firebox installation?

Use arithmetic to save money for the homeowner

One year's fuel free every five years! That's the story you can tell customers about fireboxes made of B&W Insulating Firebrick.

The arithmetic is based on facts. Because B&W IFB are *light in weight*, they do a better insulation job . . . come up to operating temperature fast, hold heat inside the combustion chamber. That results in 15% to 25% savings in fuel bills per year. Take an average of 20%, and your customer gets savings that equal approximately a year's fuel costs after only five years of operation.

Explain, too, that he will get *better* combustion as well as *clean*, *odorless* heat. Rely on the B&W Insulating Firebrick story to make you the man to see in your community.

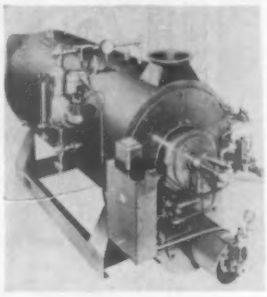
A Valuable Guide for Every Installer

Send today for this Handbook!

THE BABCOCK & WILCOX CO.
Refractories Division
Works: Augusta, Ga.
General Offices: 161 East 42nd St., New York 17, N. Y.

Cyclotherm small boiler Units for Jobs needing process Steam

CYCLOTHERM CE horizontal steam generators are designed for installations requiring process steam. They are offered in six sizes, ranging from 16 to 60 boiler hp; standard voltages are available from 110 to 550 volts. Steam capacities are from 518 to 2070 lbs. per hour. Btu output is from 502,500 to 2,010,000.



Light oilburners, which may be used with these steel boilers, use atomizing type nozzles with fixed capacity. The boilers incorporate "cyclonic combustion" a Cyclotherm exclusive.

Made by: Cyclotherm Div., Crane Co., Oswego, N. Y.

S.O.S. Products announces Kling cutting oil Spray

KLING cutting oil spray has been added to the S.O.S. Products line. It is described as a heavy bodied, sulphurized emulsion cutting oil, which clings to metal wherever sprayed. Kling features a coolant to lower metal temperature and can be used with both soft and hard metals.

Made by: S.O.S. Products Co., 346 Cumberland St., Brooklyn 38, N. Y.

"Didn't you get a service contract with him?"

T.Q.P.* Product of the Month...

1 DEPENDABLE SOURCE For HEATING PRODUCTS

* (Top Quality Products)

A *New*, improved *Low-Priced* Wisco Draft Control with 25% MORE ADDED FEATURES!

IMPORTANT FEATURES

- Underwriters' Laboratory approved
- Rugged design — sturdily constructed of corrosion resistant electro-zinc steel . . . far superior to blue steel
- Collar and tee made of galvanized steel
- Cadmium plated balancing weights
- Self cleaning hinge pins . . . super sensitive

Available in sizes 6" thru 9" (with collar) or (less collar) Tee Joint furnished with 6" size only.

TRY WISCO TODAY . . . THE BEST PERFORMANCE PROVEN LOW PRICED DRAFT CONTROL EVER OFFERED TO THE HEATING INDUSTRY

WISCO PLUS FACTORS:

- Simplified design
- Easily installed
- Versatile - equally performs on horizontal, vertical or diagonal installations.
- Simple weight adjustments
- Maintains accurate balance
- Collar is easy forming
- Rust proof
- Durable
- Economical

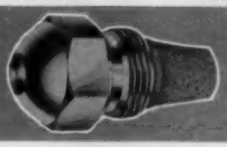
T.Q.P DRAFT CONTROLS — (U.L. APPROVED)

Whatever your requirement, Residential or Commercial, you're assured a Top Quality Product for precise control of draft. Quick, clear, accurate draft setting, ease of installation, super-sensitive swivel action, true balance, corrosion resistant bearing pins are but a few of the many outstanding proven performance features offered.

RD Residential series sizes (6" thru 9"); RD Commercial series sizes (12" thru 32"); RD Incinerator model (6"); Wisco-Economy Line (6" thru 9"). Complete information available upon request.

T.Q.P. OIL BURNER NOZZLES —

Steinen nozzles assure better "positive" fires; provide cleaner quieter flame, maximum efficiency to eliminate those unnecessary cost and time consuming service callbacks. Available in hollow (H) or solid (S) spray pattern from .50 G.P.H. to 35 G.P.H. — 30° to 90° angles Write for complete data.



T.Q.P. ELECTRODE ASSEMBLIES — (U.L. APPROVED)

For domestic, commercial and industrial applications Steinen offers quality ignition electrodes. Features include: positive alignment, locked components, only top grade Steatite used. Round, blunt or cone point tips; five standard types (over 175 additional custom designs). Complete illustrated brochure available.

ADDITIONAL HEATING PRODUCT ACCESSORIES BY STEINEN INCLUDE —

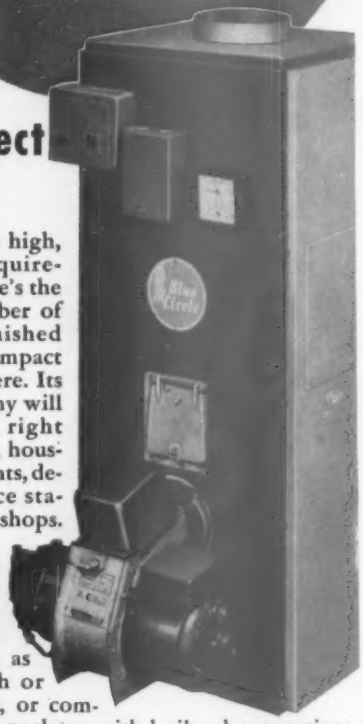
• Adapters (single and dual) • Flame Mirrors • Nozzle Kits and Racks
• Nozzle Extractors • Nozzle Strainers • Ignition Cables

WM. STEINEN MFG. CO.
HEATING PRODUCTS DIVISION — DEPT. A-4
43 Bruen St. • Newark 5, New Jersey

Write today for your free catalog "Heating Products by Steinen".

SERVING INDUSTRY FOR MORE THAN FIFTY YEARS

DUNKIRK
NEW Blue Circle
SMALLEST
4 SECTION x 13"
BOILER



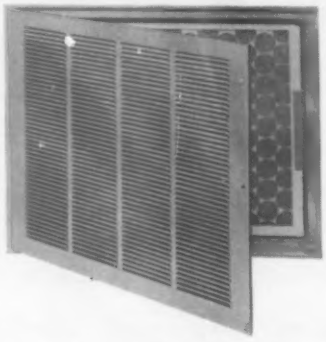
Your Perfect Deal...

If your standards are high, but your heating requirements are modest, here's the newest, *smallest* member of Dunkirk's distinguished Blue Circle family. Compact enough to *fit* anywhere. Its efficiency and economy will amaze you. Just the right size for small homes, housing projects, apartments, detached wings, service stations, small stores and shops. And the price is as small as the boiler. Oil fired...Hot water ...Cast iron Blue Circle Lexington Boilers available as basic units with or without burner, or complete Lex-Pak package with boiler, burner, circulator, tankless heater if desired, and all controls installed ready to hook up. Open front (flush) or fully enclosed (extended) jackets. Also 5, 6, 7, 8 section sizes. Send *today* for descriptive literature, specifications, prices, and name of nearest warehouse.

DUNKIRK
RADIATOR CORPORATION
Dunkirk, N. Y., U. S. A.
Member: Institute of Boiler and Radiator Manufacturers

Auer Register features filter grille for out-of-the-way spots

A FILTER GRILLE with a hinged frame, designed for use with heating and airconditioning units located in attics, crawl spaces and other inaccessible locations, has face bars stamped ½" wide on a ½" center and a 30° deflection.



The ½" face bars eliminate visibility of filter surface and permit installation with deflection either up or down. A thumb nut and a slip-in filter clip are the only parts removed for replacement.

Made by: Auer Register Company, Cleveland, Ohio.

OPW horizontal check Valves for petroleum bulk plant Use

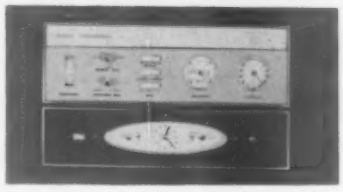
OPW 178 and 178-S are horizontal check valves for petroleum bulk plant use. They provide emergency shut-off in the piping between storage tanks and loading racks. Both have a fusible hold-open link of two pieces of sheet brass fastened together with 200 degree F. fusible metal.

Both are made of ductile iron and have swing check discs. The 178-S has a shear groove around the body.

Made by: OPW *Corp., 2735 Colerain Ave., Cincinnati 25, Ohio.*

Thermoramic Center for indoor weather control, outdoor data

GENERAL CONTROLS Co. has introduced a "Thermoramic Center," a weather central panel for indoor weather data and control, as well as information on outdoor atmospheric conditions.



Measuring 8 x 14 inches, the unit serves as a sentinel for external barometric and humidity conditions plus automatic sequencing of day and night indoor temperatures. On the panel face is a clock-timer that sequences the automatic day-night temperature settings.

Made by: General Controls Co., 801 Allen Ave., Glendale, Calif.

3 reasons why

General Refractories means more profit less cost . . . less aggravation

GENERAL REFRACTORIES CO.

In NEW YORK
34-40 Laurel Hill Blvd
(Maspeth) RA-9-5353-4-5

In ELIZABETH, N. J.
1180 East Broad St
EL-2-5324

In PHILADELPHIA, PA.
2950 East Tioga St
GA-6-6432

GREFCO

Also in CHICAGO · LOS ANGELES · DETROIT · INDIANAPOLIS · TROY, N. Y.

Similar services available from many GREFCO dealers located in the U. S. and Canada.

1 A complete line of oil burner refractories

Your nearby General Refractories Warehouse keeps a complete line of oil burner refractories on hand at all times to insure a minimum of delay between order and delivery. Any time, day or night, you can be assured of the right materials for your toughest emergency jobs.

Among the top quality products stocked are SALINA-40 and BRIK-LOK-A. Heavy oil burner contractors tell us that SALINA-40 brick are the best you can buy for the money by far. They give top performance where others fail. They insure the greatest number of hours of trouble-free operation at no premium in cost.

BRIKLOK-A is GREFCO's popular high temperature bonding mortar. Possessing strong air-setting characteristics, it has as its base, carefully selected, high quality flint clay. BRILOK-A is a wet mortar, ready for immediate use.

2 Service from our own trucks

Why should the fact that General Refractories owns its own warehouse trucks make any difference to you? Simple!

GREFCO Warehouse trucks are driven by men experienced in the handling of weighty, breakable refractories. The trucks themselves are especially built for hauling and delivery of firebrick. These factors help insure a perfect delivery every time. No wasted, costly hours waiting for the truck to return with replacement materials.

And, since GREFCO runs it own trucks, delivery promises can be kept: No need to rely on outside carriers. Your refractory requirements are met when and where needed; no time wasted on the job!

3 Competent office personnel to serve you

What a job—keeping tabs on thousands of firebrick and refractory specialties. To best serve you, the customer, the clerical help in a GREFCO Warehouse must know the prices, sizes, availability of hundreds of products. They must learn to cope with emergencies, be courteoous and helpful at all times, and have a mind for detail.

GREFCO takes pains to train its warehouse clerical personnel thoroughly. This pays off in dividends to you. Most of them are veteran employees who, after handling your orders once or twice, can almost predict your future needs and make allowances for any particular shipping, packing, unloading requirements which might be peculiar to your operations.

Hydronic Research summarized in University of Illinois Booklet

RESEARCH CONDUCTED over the last 20 years at the University of Illinois for the Institute of Boiler and Radiator Manufacturers has been summarized briefly in a 30-page booklet issued by the University. Text covers only findings and conclusions, stripped of all highly technical matter. Copies are available at 50¢ each from the I-B-R Hydronic Research House, 2103 Suppke Drive, Urbana, Ill.

Subjects covered include heating by gravity and forced hot water, one pipe steam systems, small one-pipe systems, panel heating, summer airconditioning, water heating and snow melting. References indicate sources for further reading on all subjects. Sample excerpts from the book follow.

Gravity hot water: Use as tall a radiator as possible in order to increase the operating head. For best circulation, the supply main should be insulated from the boiler to the highest point above the boiler and the remainder left uninsulated.

One-pipe steam: The radiator venting rate had no appreciable effect on the floor-to-ceiling temperature differentials. Some improvement in room temperature balance could be obtained by increasing the radiator venting rates in the cooler rooms.

One-pipe forced hot water: Operating with a flow-control valve and low-limit control maintaining a minimum boiler water temperature of 165°F. resulted in an increase in fuel consumption . . . as compared to operation without a flow-control valve and low-limit control. When radiators were located along exposed walls there was no noticeable movement of cool air across the floor. With radiators on inside walls definite cool drafts were observed. Less than 50% of the heat required to heat the rooms was supplied by the radiators. The remainder was supplied by other sources; chimney, uninsulated pipes, lights and occupants. About 80% of the heat in fuel burned was useful in the house.

Small pipe hot water: Circulator delivered 4.3 gpm through ¾-in. main; branch mains (2 gpm) were ½ in.; run-outs and risers (0.2 to 0.9 gpm) were ⅜ and ¼ in. Bends were used in place of ells. Installation cost saving is estimated at $150. Desired room temperature was maintained during severest weather, and the system was quiet.

Floor panels: Seasonal fuel saving from use of insulation under the entire floor slab as compared to use of edge insulation only are too small to justify the additional cost. Vertical insulation along the inside edge of the foundation wall is as effective as L-type edge insulation. Addition of floor coverings to bare floor panels reduced the ability of the system to maintain a constant room air temperature. Ceiling panels maintained warm floors over most of the room area, but could not adequately heat the floor along exposed walls.

Reduced night temperature: Reducing thermostat setting at night, but

If you earn your living from Oil Heat . . . your most important move this year is to attend the 39th Annual Convention

OIL HEAT INSTITUTE OF AMERICA, Inc.

Statler Hilton Hotel - Washington, D.C. - April 23-27

Sunday, Monday April 23-24 — Important Business & Board Meetings

Tuesday, April 25 — Technical Division Symposium
Chairman: Ted Kaufman, Petro Division, Iron Fireman Mfg. Co.
Speakers: P. R. Dunn, Atlantic Refining Co.—"Burner Service" M. J. Reed, Socony Mobil Oil Co.—"Technical Review" Richard Wright, Iron Fireman—"Changes in Heating Oil Specifications." A New England Service Man—"The Boss and Me."

Wednesday, Thursday, April 26-27 — The Popular Dealer Management Clinics—Subjects and speakers include:
A partial list of the Clinic panelists and their subjects: Dick Morgan, Nassau Oil Co., Princeton, N. J.—"Premium Billing—How To Do It—Its Effect On Business—And Customer Acceptance." Chet Blome, Metalbestos Div., Wm. Wallace Co., Dallas, Texas—"New Low Temperature Vent For Oil Burners—And What It Means To Your Business." Robert Fawcett, Robert Fawcett & Sons, Cambridge, Mass.—"Increasing Service Agreement Volume." M. J. Reed, Mobil Oil Co.—"Technical Problems That Face The Dealer, And What's Being Done About Them." Loren Pearce, Pearce Oil Burner Co., Seattle, Wash., and President, OHI of Washington—"The Pacific Northwest's Builder Subsidy Program." Richard Wright, Iron Fireman Mfg. Co.—"Electric Heat—Its Claims, Its Competitive Threat—And What We Can Do About It." Joe Berry, Berry Coal & Oil Co., Greensboro, N. C.—"The Advantages Of A Completely Integrated Operation." Murray Green, Trageser Copper Works, Jamaica, N. Y.—"How To Sell Oil-Fired Water Heaters." Kenneth R. Gifford, Wadleigh's Inc., Augusta, Me.—"Management Attitude And How It Affects Your Personnel And Efficiency." Gil Hiett, Gorman-Rupp Co., Cleveland, Ohio—"How Better Oil Handling Increases Profits." William A. Fluhr, W. A. Fluhr, Inc., Red Bank, N. J.—"The Human Side of Business." William Briggs, Sr., Valley Oil Co., Middletown, Conn.—a special surprise subject.

Advance Registrations & Reservations
Send $5 Registration Fee today — to Oil Heat Institute of America, Inc., 500 Fifth Avenue, New York 36, N. Y. Make hotel reservations direct to Statler-Hilton Hotel, Washington, D. C.

ANNUAL LUNCHEON—Wednesday, April 26. Mr. Glenn Werly, President National Oil Fuel Institute Speaker.

CHAPTER SECRETARIES: Breakfast and Dinner Meetings

COMMERCIAL-INDUSTRIAL SESSIONS—Mon., Tues., Wed., Apr. 24, 25, 26.

OHI

performance proves conversion to I.C. HEV-E-OIL burners reduces fuel cost, cuts maintenance!

The 590-unit Parklands Manor Development, Washington, D.C. converts to 49 I.C. HEV-E-OIL Burners for No. 4 oil

To Mr. Norman Cohen of Central Fuel Company Mr. Irwin Altman, Cafritz Realtors & Builders of Parklands writes . . .

". . . We have been most satisfied with the conversion* since we have substantially reduced the cost of fuel and the burners themselves have been very inexpensive to maintain.

"We feel that the cost of making the conversion has more than paid for itself."

- **Simple, fast installation saves time and money.**
- **High operating efficiency cuts fuel costs.**
- **Easy maintenance reduces service calls.**

HEV-E-OIL Burners for commercial and industrial uses are a complete package, ready to install, factory assembled. They are fully fire-tested; completely wired; automatic electronic controls connected, tested and burner mounted.

These are the first and only burners to apply successfully the principle of low-pressure air atomization of heavy fuel oils inside the burner nozzle. They start with a low fire and a small flame which gradually builds up to the required size for safe, smooth operation.

I.C. HEV-E-OIL Burners adapt to all standard heating boilers.

Ten sizes are available from 1 to 150 gph. Meet all code standards; Underwriters' Laboratory approved.

**Note: Conversion was made from light oil (No. 2) to heavy oil (No. 4).*

CAFRITZ REALTORS - BUILDERS

November 8, 1960

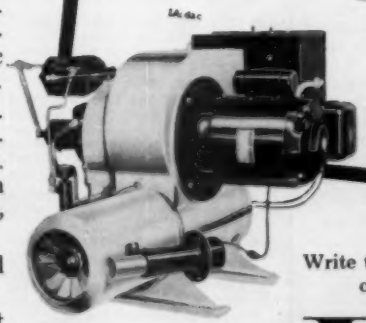
Mr. Norman Cohen
CENTRAL FUEL COMPANY
1136 Florida Ave., N. E.
Washington 2, D. C.

Dear Mr. Cohen:

About seven years ago, at our PARKLANDS MANOR DEVELOPMENT, consisting of 590 units, at Alabama Avenue and Stanton Road, Southeast, you replaced the originally installed forty-nine (49) No. 2 oil burners with Industrial Combustion Corporation Hev-E-Oil Burners designed to burn No. 4 oil.

We have been most satisfied with the conversion since we have substantially reduced the cost of fuel and the burners themselves have been very inexpensive to maintain. We feel that the cost of making the conversion has more than paid for itself and take this opportunity to heartily endorse the Industrial Combustion Corporation Hev-E-Oil Burner for this type of usage.

Sincerely yours,
CAFRITZ COMPANY
Irwin Altman
Executive Vice President



Write today for printed information or a free demonstration.

Dept. F.O.H. 41

INDUSTRIAL COMBUSTION INC.

EXECUTIVE OFFICE: 4507 N. OAKLAND AVE. • MILWAUKEE 11, WIS.

leaving all windows closed, resulted in daily fuel saving of about 5%. When windows were opened at night and temperature setting reduced, fuel consumption was the same as maintaining 72°F. in the entire house with windows closed.

Installation costs: A series-connected system performs no differently than a conventional one-pipe system, except that a radiator could not be turned off as no by-pass was provided. Elimination of the swing joint and simplified branch connections resulted in a materials cost saving of 39.6%. The radiator valve also could be eliminated.

Summer airconditioning: With outdoor temperature at 100°F. the measured sensible cooling load was about 17% less than sensible load determined by conventional estimating methods. Most of this difference was attributed to the method of estimating heat gain through glass. All radiant energy transmitted through glass is not immediately available to heat the air in the room. Opening windows at night reduced operating cost as much as 50%. Ventilating the attic during the day did not lower operating cost, but did reduce second story air temperatures by 3 to 4 degrees.

Infiltration: The I-B-R Research Residence, surrounded by trees and other houses, had considerably less infiltration at a given wind velocity than the Warm Air Research Residence No. 2, located in a relatively open site. Infiltration rate changed about 0.013 air changes per hour for each 4 degrees of increase in indoor-outdoor temperature difference or 1 mph increase in wind velocity. Good agreement between measured and calculated air change rates was obtained by overestimating effect of wind forces and neglecting the effect of temperature difference forces.

Indirect water heaters: Water heating rate is dependent on size of the heater and difference between boiler water temperature and temperature of entering water, but is independent of control setting. An accumulation of rust or sediment in heating or piping greatly reduced recovery rate.

Snow melting: Studies show that coils of ¾-in. pipe on 12 in. centers buried 2 ins. were essentially the same as ½ in. pipe on 6 in. centers buried ½ in. However, in the latter system required fluid temperature will be lower, and it will warm more rapidly. Insulation under the slab has very little effect on either the rate of heating or the cost of operation.

❖

Maine Group sets Dates for annual Convention

JUNE 13 and 14 at the Samoset Hotel, Rockland, Me., have been selected for the 7th annual convention of the Maine Oil and Heating Equipment Dealers Association, Portland. Willard T. Wight of Camden, Me., is chairman of the meeting, which will be organized as a convention-trade show.

William J. Brown has been appointed district manager for the OPW Corp., Cincinnati 25, Ohio. He will cover the Rocky Mountain area, basing his activities in Denver, Colo. and serving Montana, Wyoming, Utah, Colorado and parts of New Mexico and Idaho.

Here's how you can increase your profits and gain new customers for repair and replacement business!

The modern space saving

MEYER HANDYMAN POWERVAC FURNACE CLEANER

A FURNACE CLEANING SERVICE IS THE IDEAL TIE-IN WITH YOUR PRESENT BUSINESS

While enjoying profits from the operation of a furnace cleaning service, you can also develop leads for furnace repair work and parts replacement business.

The Meyer "HANDYMAN" Furnace Cleaner is built with more power (up to 40 H.P.) and greater capacity than any other cleaner. You can contract for residential, commercial, institutional and industrial heating systems at a maximum profit.

ACT NOW! Phone, Wire or Write

Investigate all the features and advantages of the General "HANDYMAN" Powervac Furnace Cleaner before you buy furnace cleaning equipment for your shop. Send for our Profit Portfolio with complete information and prices on the "HANDYMAN" and other General Furnace Cleaners. Do it now!

Check these "HANDYMAN" Features:

- FAST ALL WEATHER OPERATION
  Cleans average system in one hour or less. Operates efficiently in rain or shine. Adds 30 to 60 more days per year to your work schedule . . . adding extra profits for you.
- SPACE SAVING MODERN DESIGN
  No other cleaner is so compact and has the eye appeal that builds sales. It can be used off the street in drive-ways and other spots where big bag cleaners made it difficult to work.
- ONE MAN OPERATION
  One man can set-up and operate this modern furnace cleaner . . . doing an average of 5 or 6 residential jobs in one day.
- LOW MAINTENANCE
  Clean 60 jobs or more before 75 cu. ft. hopper needs cleaning out. Hopper has large clean-out door for fast removal of soot and ashes. Convenient hose storage for up to 100 ft. all coupled and ready to go. 2 built-in tool boxes.

AND MANY MORE!

Phone, Wire or Write Today
INdependence 3-5127

Wm. W. Meyer & Sons
8260 Elmwood Ave., Skokie, Illinois

Why the Silent Automatic WALL-FLAME OIL FURNACE gives dealers such good volume and good profits

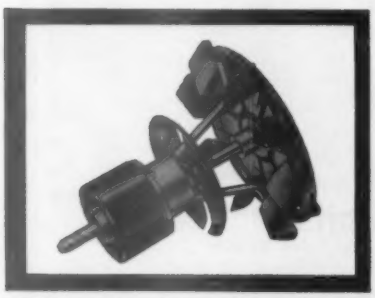
The Silent Automatic Wall-Flame burner. Customers are assured of fuel economy by the unique Wall-Flame burner. They can see how the silent Wall-Flame sweeps the heating surfaces and how heat is immediately transferred to the heating system. And they are sold when they see owner reported savings of 25% and more; and when, after a heating survey, you can guarantee them fuel savings, in writing. The whisper-quiet Silent Automatic means a lot to the customer accustomed to a rumbling, puffing furnace. No blow-torch roar to the soft, quiet Silent Automatic.

1. **It is a proved fuel saver.**
2. **It has superior and unique selling features.**
3. **It has obvious high quality.**
4. **It has a documented record of dependability.**
5. **It bears one of the oldest and best-known names in heating.**

Growing market for QUALITY means more sales — bigger profit per sale

The Silent Automatic oil furnace costs a little more (as does any quality product) *but* thousands upon thousands of Silent Automatic owners have proved they are willing to pay a little extra for *extra value*. Customers in this large and growing market can see proved fuel savings and the benefits of quiet, dependable performance. This is why Silent Automatic dealers earn fair and liberal profits. This is why Silent Automatic equipment sells so well.

Wire, write or phone for literature, specifications and information on dealer opportunities. Or, mail coupon.



The Silent Automatic Mono-Rotor — the only moving part. Customers are convinced of Silent Automatic's dependability when they can see the only moving part in the burner—the exclusive Mono-Rotor, guaranteed by Silent Automatic for the life of the initial installation. They know they will be getting virtually trouble-free heating with Silent Automatic.

HIGHBOY WARM AIR FURNACE

LOWBOY WARM AIR FURNACE

HORIZONTAL WARM AIR FURNACE

STEAM OR HOT WATER BOILER

Silent Automatic
HEATING • COMFORT • COOLING

Silent Automatic Products, 3251 W. 106th St., Cleveland 11, Ohio
(In Canada, 80 Ward St., Toronto)

Please send me literature and specifications on Wall-Flame equipment and dealer opportunities available.

Name_____

Firm_____

Address_____

City_____ State or Prov._____

Readers' Problems

(Begins on page 84)

vacuum cleaning of the indirect heating surfaces.

Disgusted, Zanesville, Ohio

PS—Just today, I had to remove the oilburner from a vertical oil-boiler to clean out scale and soot for the first time the thing's been cleaned in five years!

A. Dear Disgusted:

In the future, don't worry about being identified by your initials and home town when you write this department. The initials published at the ends of inquiries always are scrambled or altered to make identification of the inquirers impossible. Why you are so secretive is not clear, anyhow, unless your father-in-law makes the furnaces or boilers you're complaining about.

Such lack of flue clean-out doors, as you complain about, clearly is the result of certain manufacturers trying to make their oil-boilers or oil-furnaces too small, or too cheap, or both. In addition, certain manufacturers are laboring under the misconception that the flue passages of their units never will need cleaning out.

PS—Working on one of these dillies, remove the smokepipe also (in addition to removing the burner), as that will give you access to additional, hidden passages.

Q. I would appreciate some help in analyzing combustion test results.

(1) In my work I have found numerous installations that were greatly overfired. Now say I just baffled and sealed air leaks, leaving the nozzle the same. This results in a higher CO_2 reading and a lower stack temperature reading so that the combustion efficiency chart shows a 20% increase in efficiency. Now suppose instead of baffling I install the proper size nozzle and combustion chamber, and this results in a 20% increase in efficiency on the chart. My question is will both save 20% of fuel used or will the smaller nozzle show a 20% plus due to the smaller nozzle.

(2) A group of apartments each has its own individual heater. Each apartment has a heat loss of 45,000 Btu's. Each furnace is fired at .75 gph. Will switching from .75 nozzle to .50 nozzles make any appreciable difference in fuel used?

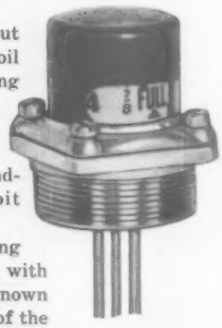
(3) I get the impression from your recent articles that it is desirable to lower the firing rate of a unit until a low stack temperature of 400°F. to 450°F. is reached even if it means using a smaller nozzle than that which came with the unit for the particular amount of Btu's.

Your help on these questions would be greatly appreciated.

N. M. J., Camden, N. J.

A. (1) To minimize fuel bills, take both kinds of steps which you describe. Each step will save oil. However, the figuring goes this way. The first step saves 20% of the oil used previously, cutting the oil consumption to 80% of what it was. The second step cuts this 80% by 20%, making it 80% of 80%, or reducing the original oil consumption to 64% of what it was. Thus taking two steps, each of which reduces the original oil consumption by 20% in theory, cuts the oil consump-

RMC Joins American-Standard®



For years you've known all about the Rochester *Universal* fuel oil tank gauge and its outstanding performance record.

You know, too, about the automatic heating controls produced by the American-Standard Controls Division, Detroit plant.

Now, Rochester Manufacturing Company has become affiliated with American-Standard, and we're known as Rochester Instrument Plant of the American-Standard Controls Division.

Rochester *Universal* gauges have taken their place alongside the products of the Division's plant at Detroit, and at Stratford, Conn. Investigate the full line of products manufactured by the Division. Write American-Standard Controls Division, Rochester Instrument Plant, 8 Rockwood St., Rochester 10, New York.

AMERICAN-Standard
CONTROLS DIVISION

ENGINEERED BY EDWARDS

Rumble Suppressant Design In New Smokeless Oil-Fired Hot Water Heating Units

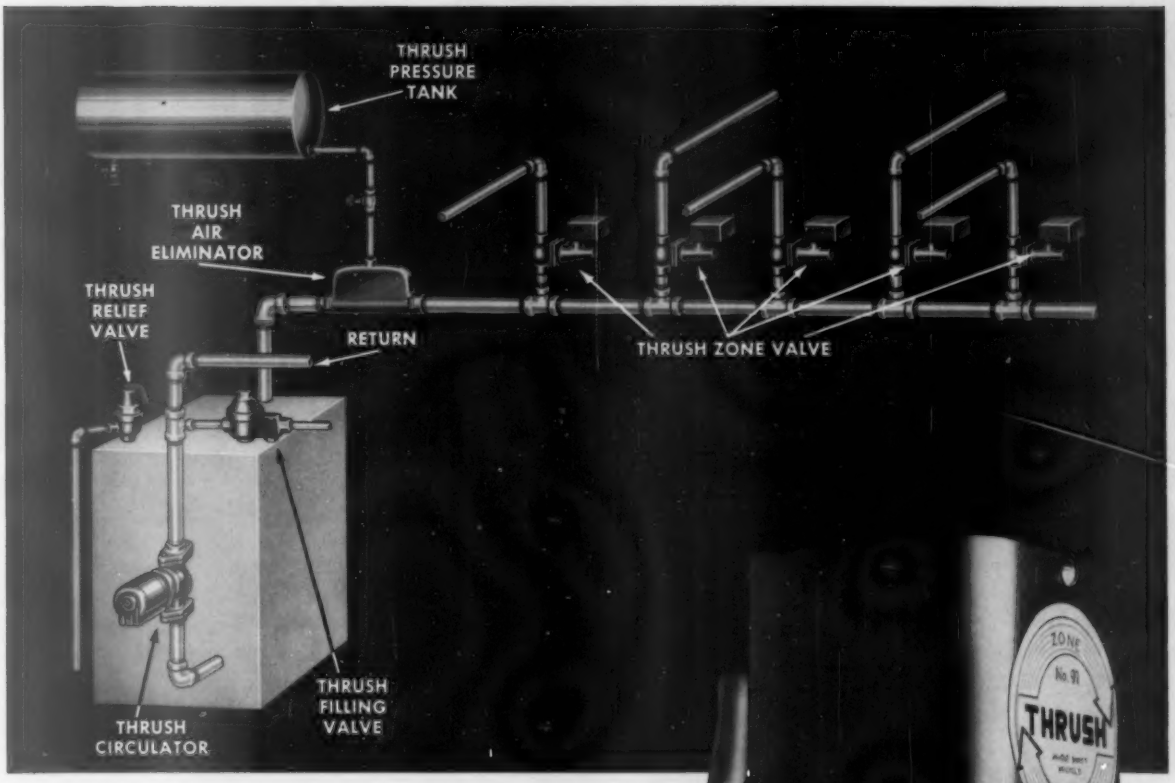
• High combustion efficiency • 100,000 to 3,000,000 BTU/Hr capacities • 100% automatic air elimination in all Zone-A-Matic gas and oil-fired units

FREE....70 page design handbook on single and multi-zone hot water baseboard heating systems.

EDWARDS ENGINEERING CORP.

3628 ALEXANDER AVE., POMPTON PLAINS, N.J.
TEMPLE 5-2808

"One of the nation's largest manufacturers of Residential and Commercial Boiler-Burners (gas and oil fired), Baseboard and Steel-Fin Radiation, Motorized Valves, Air Cooled and Water-Cooled Condensers."



With THRUSH Zone Valves One Thrush Circulator Serves Many Zones!

THRUSH ZONE VALVE
Closes Tightly

Be sure it's a genuine Thrush Zone Valve, the finest and most scientifically designed zone valve for water heating or cooling systems yet developed. There is no wasteful circulation when heat is not needed. Prevents uncomfortable overheating.

YOU'LL MAKE more money and you'll please more customers if you recommend and install Thrush Zone Control on every hot water heating system. Now it's easy to provide individual heat control in each apartment and less expensive than ever. One Thrush Circulator will now serve five or more zones when each zone has a Thrush Zone Valve, as the above layout illustrates.

Original cost of multiple zone installations is greatly reduced through simplified piping, low voltage wiring and less labor. It's the ideal zoning system for multiple occupancy buildings, motels, apartments, residences and especially valuable for split-level homes. See your wholesaler for more information or write Department C-4.

MODEL A THRUSH WATER CIRCULATOR

Quality Hydronic Heating Specialties

H. A. THRUSH & COMPANY
PERU, INDIANA

tion to 64% of what it was originally . . . not to 60%.

(2) Switching from .75 gph to .50 gph nozzles will save appreciable oil. But according to the experience of many servicemen, field engineers, and laboratory men, the switch may lead you into much nozzle plugging trouble. You could try the .50 gph nozzles in a few installations, if you equip each job with the best oil-line filter you can obtain, and if you make certain to install a new filter cartridge every year. We wish you luck if you try that, and would like you to keep us informed regarding your success.

(3) The rule is to use the lowest firing rate that heats the house properly on coldest mornings. It's obvious and only common sense that you don't wind up with such low-capacity nozzles in pressure burners as to cause wholesale lots of nozzle plugging trouble. You would not dream of using .40 gph nozzles in many pressure burners, if such nozzles were available for general use! Another consideration applies to oilfired boilers having tankless water heaters. Although the heat losses of the homes may be exceptionally small, you do not fire such boilers with nozzles of such low capacity as to cause complaints about insufficient hot water.

Q. We have been approached by an individual who would like to clean our old nozzles. His charge would be ten cents per nozzle. Do you think this would be advisable? It would be most profitable to us. Our big concern, however, is whether or not these reconditioned nozzles would result in callbacks. We would appreciate any information you may have on this subject. Thank you.

D. A. J., Corona, N. Y.

A. Most emphatically, don't try anything of the kind! Starting out with a mess of dozens of used nozzles, the man could not possibly wind up with nozzles bright and clean as new nozzles are, and with inner oil passages as microscopically clean as those of new nozzles. At ten cents per nozzle, he could not even approach satisfactory cleaning and handling for the nozzles.

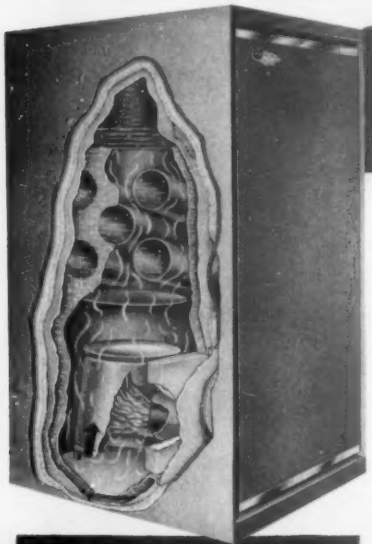
In addition, metal of a used nozzle is not the same as that of a new nozzle. If it were possible to make an old nozzle as clean as new, even then the old nozzle's performance would not be the same as it was when the nozzle was new. You could expect inferior atomization, lop-sided spray, an improper spray angle, the wrong spray pattern, and an improper gph output rate.

You should be extremely thankful for the fact that, thanks to the marvels of quantity production and manufacturing design and genius, new nozzles that perform splendidly are available at exceedingly low prices.

When in doubt about the performance of a customer's nozzle, throw it away and replace it by a brand-new, bright-and-shiny nozzle. That's the only way to arrive at best-possible oil-burner performance and minimum fuel bills!

We've never heard of a wilder scheme related to burner servicing . . . than this scheme for mass cleaning of old nozzles at ten cents a head.

Q. We would appreciate a clarifica-



WITH EXCLUSIVE
"ECON-O-CONE"
COMBUSTION CHAMBER

A NEW ERA IN HYDRONIC PROGRESS HAS BEGUN WITH e·f·m·'s ADVANCED DESIGN BOILER BURNER UNIT

For over 38 years, Electric Furnace-Man has maintained its reputation for "The Finest in Automatic Heat". E.F.M. is still the leader with their new advanced design "ON" series oil fired Boiler Burner Unit which includes features that are not found in competitive equipment. The "ON" is loaded with selling features that prove their value in performance and economy of operation. Here are just a few of these features:—One piece steel boiler of ¼" boiler plate, wet base design and "Econ-o-cone" high temperature chrome steel combustion chamber with unitized construction. There are many more that will outsell competition; write today for full information and find out the many profit advantages with E.F.M.'s full line.

e·f·m The Finest in AUTOMATIC HEAT

ELECTRIC FURNACE-MAN INC., EMMAUS, PA.
FURNACE BURNER UNITS—BOILER-BURNER UNITS—CONVERSION BURNERS
OIL—ANTHRACITE—GAS

DURA-VENT
Announces
DURA-CHIMNEY®

UP TO 60" LENGTHS

LIGHT WEIGHT

FACTORY ASSEMBLY

The ALL-FUEL Chimney
for use with
Gas, Oil, Coal, or Wood

DURA-CHIMNEY is the only factory-built chimney that gives you *light weight*, *factory assembly*, and a choice of pipe lengths up to *60 inches*.

Construction: DURA-CHIMNEY consists of three concentric pipes: a 7-inch stainless steel flue surrounded by a middle pipe of aluminized steel, and an outer pipe of galvanized steel.

Weight: DURA-CHIMNEY weighs only 6 pounds per foot. None on the market weighs less; most weigh more.

Efficient: Low thermal mass permits quick, adequate draft.

Assembly: DURA-CHIMNEY is ready to be lifted from the shipping carton and set in place. No special tools or training are required.

Safe: Listed for use by Underwriters' Laboratories.

For further information write:

DURA-VENT CORPORATION

Factory and Western Sales Offices
2525 El Camino Real, Redwood City, California

Factory and Eastern Sales Offices
1400 West Ormsby Ave., Louisville 1, Kentucky

Dura-Vent is a subsidiary of Dover Corporation

DOVER

tion to a problem concerning an oil customer's boiler. We explained that a carbon tree grows on his firebox floor in front of the gun tube because the burner installer did not provide sufficient nozzle height. The boiler is fired with No. 2 oil at 6.00 gph using twin nozzles of 3.00 gph, 60° angle. The nozzle height is 4".

Since the customer only recently started purchasing our fueloil, he doubts our explanation of his trouble.

Further, may I add, the unit is not being overfired. Draft conditions are good. Flame characteristics are proper, except for this flame impingement on the firebox floor caused by the 4" nozzle height.

My question is: Should the nozzle height be based on a 6.00 gph single nozzle . . . or on firing 6.00 gph using two 3.00 gph nozzles . . . or simply on the use of a 3.00 gph nozzle? Also, what is the proper size combustion chamber for this installation?

K. E. R., Gary, Ind.

A. One important reason for using twin nozzles is that it permits the use of lower nozzle height. In this case, it permits using the proper nozzle height for a 3.0 gph nozzle, instead of the greater nozzle height needed for one 6.0 gph nozzle. In addition, of course, the use of two low-capacity nozzles produces finer atomization than would result from using one 6.0 gph nozzle.

The nozzles are entirely too close to the firebox floor on this installation! That's why oil is impinging on the firebox floor, and the coke tree trouble is encountered.

For information about this that's far more detailed and complete than we can provide in this letter, you should obtain a copy of the widely accepted, authoritative B & W Firebox Handbook, which you can obtain simply by writing to The Babcock & Wilcox Company, Refractories Division, 161 East 42 St., New York 17, N. Y.

This handbook lists 7" as the proper height for a 3.0 gph nozzle where the flame is of normal shape, not exceptionally narrow or wide. That 7" nozzle height is correct for this installation; the nozzle height is the same for 3.0 gph nozzles, whether one nozzle or twin nozzles are being used. For an extremely narrow flame, the nozzle height is 6½" for a 3.0 gph nozzle.

Use of one 6.0 nozzle would require nozzle height of 8".

Your question about proper firebox dimensions relates to firing 6.0 gph using one nozzle or twin nozzles. According to the Handbook firing 6.0 gph requires a firebox 20" wide and 26½" long. Side height is that of the 3.0 gph nozzles, however, or a minimum of 18". The length and width of the firebox can be somewhat different than the 20" and 26½" just given, but the area of the firebox floor should be from 520 to 540 square inches, and the firebox shape should match the shape of the flame.

Q. We are investigating the possibility—or advisability—of establishing fueloil storage tank insurance for our customers. Do you have any information regarding this plan?

L.K.R., South Bend, Ind.

A. There is no insurance company that we know of doing this; quite a few oilheating dealers do it on their own. This usually is done in conjunc-

Century summer winter system

FOR LITTLE MORE THAN HEATING ALONE

Here is central year 'round air conditioning as easy to install as many plug-in appliances. Priced to make you a profit . . . built to eliminate annoying service calls. You *keep* the profit you make.

Century HEATING · COOLING
CEDAR RAPIDS, IOWA

FURNACE—Oil fired —all types
EVAPORATOR—Matches furnace—no field transitions
COMPRESSOR-CONDENSER—Remote type—installs in minutes

Want a Profitable New Department ? ? ?
In This Amazing Business
ONLY 175 CUSTOMERS
(AT THE NATIONAL AVERAGE SALE PER CUSTOMER)
NETS $15,000 YEARLY

GUARANTEE
You must be completely satisfied with this business and your earnings from it or we'll buy back this equipment (at a reasonably depreciated price).

Revolutionary, New Lawn and Garden Machine Services
Lawns, Gardens, Shrubs, Trees for as little as $1.75 Weekly

Kills Crabgrass, Weeds — Limes, Fertilizes and seeds Lawns — Destroys Ants, Grubs, Chinch Bugs, Over 200 Other Insects and pests New Hydramatic Way

YOU can keep lawns rich and green — free of weeds and crabgrass — keep trees strong and stately — keep lawns and gardens pest-free for home owners who hate these chores.

NO EXPERIENCE PREFERRED

We teach you quickly GSS methods proven coast to coast and in Canada in over 14-billion square feet of lawn treatments yearly. Your customers save big money — yet you make BIG PROFITS. Tremendous potential — homes, industry, clubs. Only $3850 down buys fully equipped 1961 truck that can gross up to $1000 a week. You keep up to HALF or more. Unlimited opportunity to expand with more trucks can put hard-driving men in $25-30,000 earnings class. Unprecedented buy-back guarantee (see above). What other business offers such potential with such limited risk?

DISTRIBUTORSHIPS

Distributorships that share in continuing royalty income available for unusually low investment on easy terms.

Exclusive Franchise — Protected Territory

ACT NOW . . . Write or Call:
GENERAL SPRAY SERVICE, INC., Dept. FOH
General Spray Building, Katonah, N.Y.
CALL COLLECT: CE 2-5144

HOW TO KEEP THE PROFIT IN YOUR SERVICE CONTRACTS! WEBSTER SERVICESAVER

Profit on your service contract can often be measured in the performance of the fuel-unit. One extra call for cleaning and the profit is lost!

That's why it's so important to replace with a Webster **ServiceSaver.** This trouble-free fuel-unit with the exclusive rotary filter never needs cleaning. It runs clog-free for a lifetime!

ServiceSavers are easy to hook up, cut installation time in half. *They mount and operate in any position, on any high pressure oil burner without changing connecting lines!* The installation call is the only call you have to make. Both single and two-stage **ServiceSavers** replace any fuel-unit now on the market.

Next time install a **ServiceSaver** — and *keep the profit* in your service contract!

WEBSTER 2-STAGE SERVICESAVER

This is a true 2-stage pump — with separate suction gears, separate pressure gears and a special reservoir to eliminate air from the system. It assures faster priming for quicker starts, stops most common pump failures from restricted lines, small air leaks in plumbing. Write for Bulletin FU-2.

HEATING DIVISION

WEBSTER ELECTRIC

RACINE · WIS

tion with their service contracts, with an extra charge included if the coverage includes replacement of the tank.

The rate of loss on tanks depends on how they are installed. The loss ratio so far on 275 gallon basement tanks has never exceeded 14 per thousand tanks in any one year. The high point was reached shortly after World War II when we had pretty careless handling of the oil and salt water got into it.

As the average of burners gets older, the loss may be higher. Just now they're running about 10 per thousand per year. Thus, if you figure the installed cost of a 275 gallon basement tank at about $65 and you put in 10 each year per thousand customers, you can see the whole cost would be pretty small.

I believe most dealers add about $3 to their service contracts when they include tank insurance. Again, we're thinking of the 275 gallon basement tank.

If you were using outdoor tanks, above ground, I'm sure they would wear out faster. I believe you would have to think in terms of about a 10-year replacement for those. We've never heard of anyone insuring underground storage tanks.

Q. Adding a slab-type room to a pretentious home, the architect specifies heating it with hot-water coils in the slab, and also with hot-water baseboard radiation controlled by its own room thermostat. Can you give reasons for using this unusual arrangement? The new, slab-type room is large, 32 ft. by 55 ft., has two big picture windows and a large outside door.

B. S. C., Winnetka, Ill.

A. You are requesting that we read the architect's mind by long distance!

However, he may be using the hot-water coils in the slab mainly to avoid a cold floor. His design may cause these coils to carry 40% to 60% of the room's heat loss, while the baseboard radiation carries the balance of the heat loss.

He wants the baseboard radiation to blanket the picture windows with warm air, flowing upwards and avoiding discomfort near these windows on coldest days. He might prefer to heat the room entirely by baseboard radiation, but he may find it impossible to install enough such radiation in the room.

The temparature of the baseboard radiation can be made to increase or decrease rapidly, whereas the temperature of the slab can't be made to do this. He may be using the radiation, then, mainly to gain rapid response to the demands of the room thermostat.

This is an excellent arrangement, which we have described and recommended to inquirers. You should compliment the architect for his heating layout.

Q. Please tell me who wrote this? "There is hardly anything in the world that some man cannot make a little worse and sell a little cheaper, and the people who consider price only are this man's lawful prey."

W. T. S., Aurora, Ill.

A. John Ruskin.

YOUR KEY TO MORE PROFITS

Standardize on

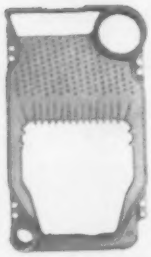
Fulflo Filters

with patented green Honeycomb filter tubes

- **SIMPLIFY** your inventory: have one reliable source of supply.
- **ASSURE** trouble-free oil burner operation.
- **REDUCE** needless service calls that eat up your profits.

For over 25 years, Fulflo Filters and Honeycomb Filter Tubes have been FIRST in the industry — offering easy installation, rapid element change, positive continuous filtration.

CFC COMMERCIAL FILTERS CORPORATION
Fulflo • Honan-Crane • Delpark • Michiana
MELROSE 76, MASSACHUSETTS
PLANTS IN MELROSE, MASS. AND LEBANON, IND



ROPE SEALED, HYDRO-WALL DESIGN

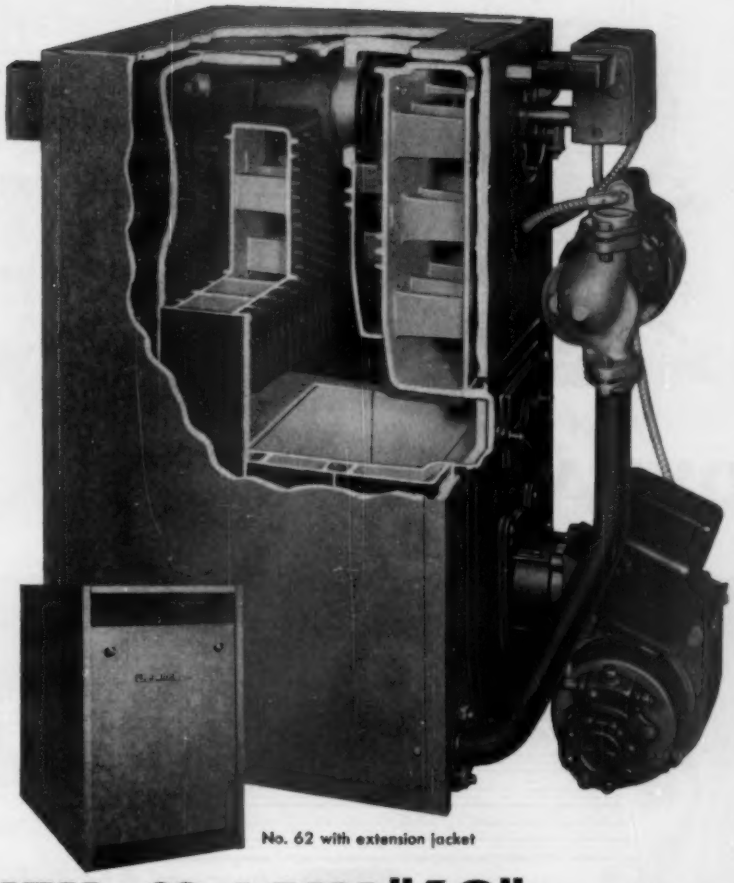
Combustion area is completely water-backed—top, sides and bottom. This construction results in lower boiler height, reduces heat loss through bottom and permits installation on any type of floor. Sections are not face ground and boiler is made permanently gas-tight with an asbestos rope seal.

INTEGRAL FLUE GAS COLLECTOR

A horizontal flueway is cast into the sections and acts as a flue gas collector—eliminates a separately installed collector hood—permits a straight-through connection to the chimney.

BURNER WITH MOUNTING COLLAR

Blast tube of the burner passes through the mounting flange opening and is correctly positioned in the boiler by the flange collar.



No. 62 with extension jacket

INTRODUCING THE WEIL-McLAIN "62" OIL BOILER

...another achievement in styling, performance, easy assembly

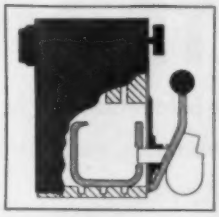
A genuine advance in *cast iron* oil boiler design...for greater efficiency...space-saving compactness...easier maintenance...faster installing. Weil-McLain Nos. B-62 and P-62 Oil Boilers are especially distinguished by the integrated design of burner, combustion chamber and boiler which assures most efficient utilization of fuel.

Other features include top cleanout openings for easy cleaning of the flueways, Easy-Fit pump hook-up kit, wiring harness and optional tankless water heater. A new method of paletting permits P-62 "Package" boilers to be placed in exact spot desired before removing the pallet.

No. 62 Boilers are shipped with insulated flush jackets but can be provided with an extension for complete enclosure.

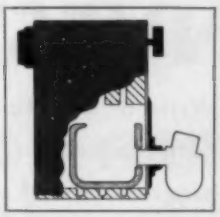
CORRECTLY POSITIONED COMBUSTION CHAMBER

Lugs on both sides of the pre-cast combustion chamber fit into recesses between sections, automatically placing it in the correct position.



No. P-62

Factory assembled with burner, combustion chamber, wiring harness, controls, circulator and pre-formed return pipe.



No. B-62

Furnished with burner, combustion chamber, wiring harness and controls.

Send for Bulletin C-307

WEIL-McLAIN BOILERS-RADIATORS

WEIL-McLAIN COMPANY

Incorporated

MICHIGAN CITY, INDIANA

Address literature requests to Dept. B-41

EXTRA PROFITS
FOR
PROGRESSIVE
OIL FIRMS

WITH

DYNA-VAC Power Cleaning Service

(Formerly Furnace-Vac)

Increase your OIL SALES!

Make REAL PROFITS cleaning and servicing

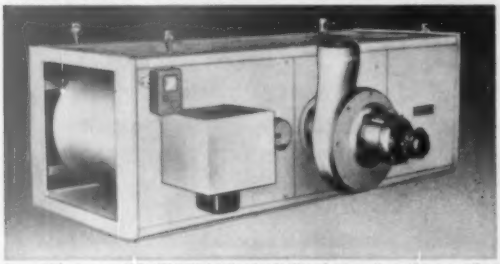
INVESTIGATE NOW!

Write or wire for prices and free information. Many of the nation's most progressive firms are using our equipment and program to make added profits.

DELAMATER MANUFACTURING CO.
ROCKFORD, ILLINOIS

Why dealers are switching to VoluMetric Combustion

Iron Fireman CUSTOM Mark II Warm Air Furnace. 85,000 to 160,000 Btu/h.



Iron Fireman CUSTOM Mark II Horizontal or Suspended Furnace. 84,000 to 250,000 Btu/h. Since it needs no chimney draft—merely an exhaust vent—it has many unusual commercial and residential applications.

(Below) Iron Fireman CUSTOM Mark II Steam or Hot Water Boiler. Up to 145,000 Btu/h.

Iron Fireman CUSTOM Mark II oil furnaces and boilers

with VoluMetric Combustion

VoluMetric Combustion cuts fuel and service costs
Sealed combustion system achieves 100% fuel combustion. Flame starts clean and burns clean. No smoke or soot, no flame pulsation. Negligible standby loss—fuel savings range from 18% to more than 50%. No chimney needed—simply an exhaust vent (where local codes permit).

CUSTOM Mark II sales volume is constantly increasing. These are the reasons:

IT DELIVERS
on promises of large fuel savings.

IT DELIVERS
on promises of cleanliness.

IT DELIVERS
on promises of extremely low service and maintenance expense.

IRON FIREMAN DELIVERS
on promises of prompt delivery.

ECONOMY, No. 1 selling feature. Francis Woodworth of Center Junction, Iowa, writes: "For the 1958-59 heating season, one of the most severe in recent history, my cost dropped from $200.64 to just $99.17, a saving of $101.47. You are to be congratulated on your dealer. He is a fine fellow."

12 furnaces, 2 service calls all season. Michigan CUSTOM Mark II dealer writes: "In 12 installations only 2 service calls have been made for the entire heating season. In making a thorough check after the heating season we found that the nozzle, electrodes and combustion chamber were absolutely clean and free from any soot or carbon deposits which, to say the least, amazed us."

To fuel oil dealers. If you now have oil customers using old-type, fuel-wasting oil burning equipment, your best insurance against their changing to another fuel is to sell them on modernizing with oil-saving CUSTOM Mark II units.

Get the facts. The market for CUSTOM Mark II furnaces and boilers expands daily—residential heating, automotive service stations, garages and space heating for all types of buildings. Write or wire for full information on equipment and dealer franchise, or mail coupon.

IRON FIREMAN.

Iron Fireman Mfg. Co., 3194 W. 106th St., Cleveland 11, Ohio
(In Canada, 80 Ward St., Toronto)
Please send information on CUSTOM Mark II furnaces and boilers, with data on dealer franchise and territories available.

Name_____
Firm_____
Address_____
City_____ State or Prov._____

Down-to-earth Questions lead into Talk about No. 6 oil package Boilers

Readers' Problems come and go; most are routine but just about all of them are practical and valuable.

The following "king size" question and answer contains multiple questions; all of them are excellent, practical and valuable from the standpoint of the oilburner installer and serviceman. The questions as a matter of fact probably are on the minds of most servicemen working on package units, as well as conversion rotary-cup burners; they even are on the minds of boiler and burner design engineers.

Accordingly, the question and answer exchange is carried in detail because so many burner men will glean much practical information from it.

Q. "I HAVE READ your magazine for several years and find it most interesting and informative.

"We have had trouble with two package boilers, each firing about 15 gph of No. 6 oil to heat an office building. When new, these gave trouble with oil blow-back from the nozzles, oil burning on the sides of the fire-tube, and oil blowing back into secondary air throats.

"The electric oil-heating system caused part of the trouble, as its thermostat could not control closer than 50°F. We switched to a more sensitive thermostat and added an auxiliary pump-set to circulate the oil through the heater. That reduced the temperature variation to 10°F. or less, which is highly important for burners of this design. But it did not end our problems. We had an engineer in from the burner factory several times but he wasn't able to improve the situation much. Finally he bricked the full length of the fire-tube (the combustion space in the boiler) and extended the firebrick halfway up the sides. That helped end the blow-back of oil around the nozzle but increased the stack temperature 100°F. and did not end the other troubles.

"Recently we removed the firebrick and installed instead a complete ring of silicon brick 27" long in the fire-tube, forming a refractory combustion chamber. That helped combustion, leading to 12% CO_2 with No. 5 smoke. But oil still burned on the refractory and in the throat. Aiming to eliminate sparklers in the flame, we raised the oil temperature to 200°F., which helped considerably. We use No. 6 oil of 14 API gravity, and of 170 SSF at 122°F.

"Then we decided the factory-installed throat-ring refractory was not right as it left a shoulder four or five inches high on the side away from the burner, which caused an eddy which throws the oil against the cold fire-tube. We reversed these tile to give a smaller throat opening and rammed 18" of plastic refractory in a complete ring to give a hot combustion chamber and eliminate the shoulder.

"That stopped the burning of oil

The FYRITE SERVICE KIT

...QUALITY INSTRUMENTS that Pay for Themselves

The FYRITE Service Kit provides a complete set of accurate, quality-built combustion-testing instruments at the lowest cost. It includes the FYRITE CO_2 Indicator which is unsurpassed for fast, accurate flue gas analysis; and also contains the popular DRAFTRITE Draft Gauge and the TEMPOINT 200°-1000°F. Dial Thermometer.

$56.70 FACTORY NET

Sold by Alert Heating Jobbers

BACHARACH INDUSTRIAL INSTRUMENT CO.
200 N. BRADDOCK AVE. • PITTSBURGH 8, PA.

Send FREE Bulletin on Profitable Uses of Service Kit

NAME_____

COMPANY_____

STREET ADDRESS_____

CITY & STATE_____

SK-27A

USE LIQUID BURNISHER NOW

AS PART OF YOUR

CLEAN UP PROGRAM

AND REDUCE SERVICE CALLS ON CONTROLS BY 33% NEXT WINTER

Used by thousands of service organizations. Preferred by electronics manufacturers.

with one push of the button . . .

CLEANS AND RESTORES CONTACTS ON OIL BURNERS, AIR CONDITIONERS, GAS CONTROLS, ETC.

Such as: Relays, Breakers, Solenoids, Thermostats, etc.

Aerosol **CONTACT CLEANER**

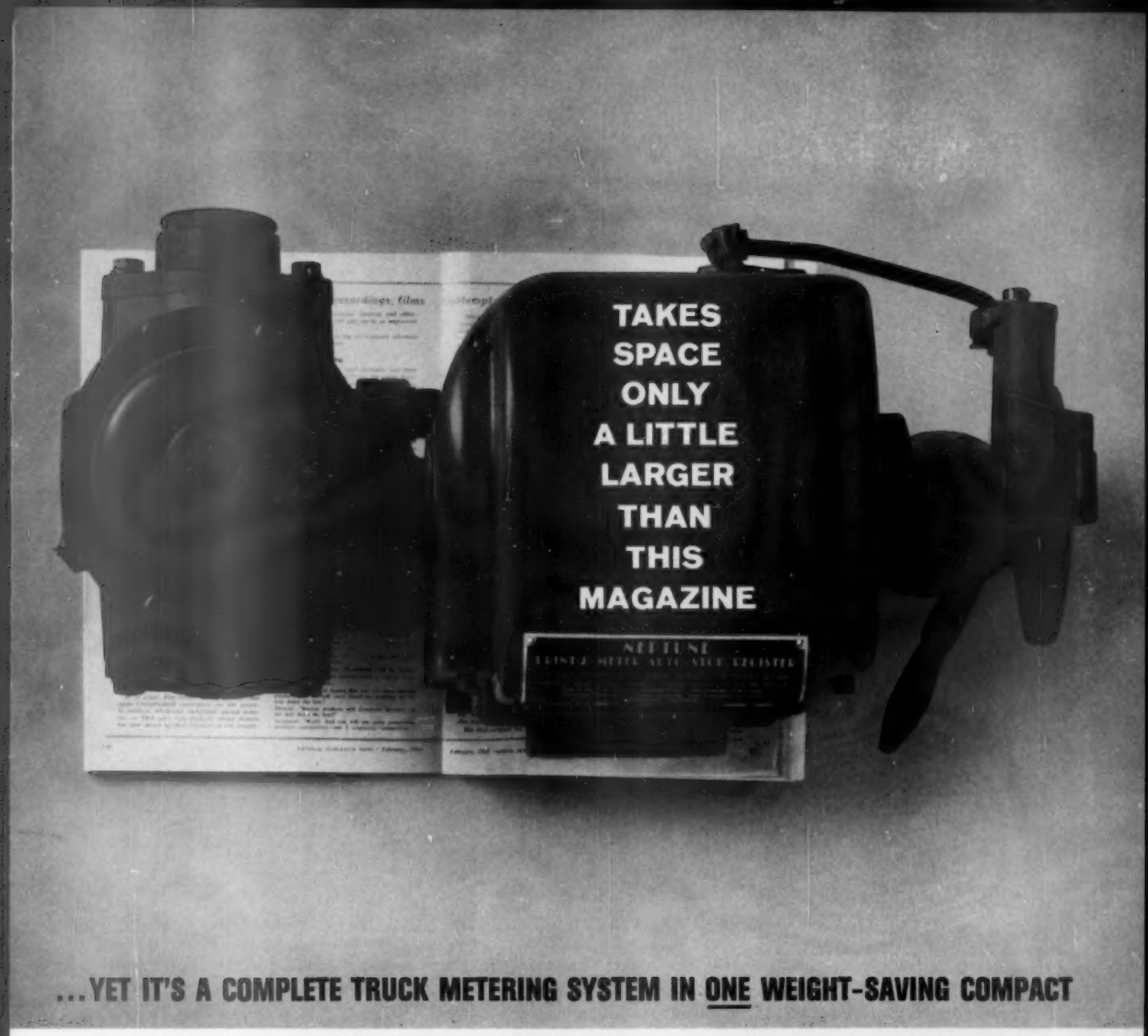
LIQUID BURNISHER

Permits application in difficult areas. Prevents rust, pitting and corrosion.

AVAILABLE AT MOST JOBBERS OR WRITE FOR NEAREST DISTRIBUTOR.

$1.25 can

THE TANKIT CO. INC. 560 BELMONT AVE. NEWARK, N. J.



...YET IT'S A COMPLETE TRUCK METERING SYSTEM IN ONE WEIGHT-SAVING COMPACT

neptune
for a better measure of profit

Everything you need for accurate metering of fueloil or gasoline is built into one weight-saving unit in Neptune truck meters: an efficient air-release to remove slugs of air, a large capacity strainer to prevent dirt stoppages, a time-saving automatic quantity control valve, and confidence-building ticket-printer.

Only Neptune gives you all these in so little space, with so much saving in weight. Only three connections to make. No "extras" to buy . . . fewer chances for leaks . . . less chance for improper installation.

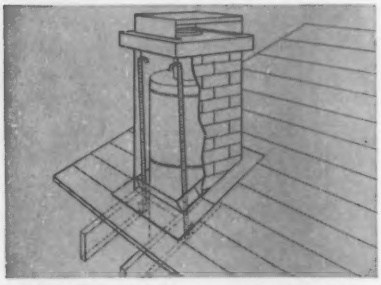
Most important . . . all these important accessories are *designed* by Neptune, *assembled* by Neptune, and *calibrated as one unit* by Neptune.

Add Neptune's splendid reputation for sustained accuracy and low maintenance, and you have the oil marketer's most sought-after business friend. All sizes. Ask your Neptune Equipment Jobber or tank truck manufacturer for details.

NEPTUNE METER COMPANY
47-25 34th St., Long Island City 1, N. Y.
Branches and Jobbers in All Principal Cities
In Canada: Neptune Meters, Ltd., Toronto Ontario

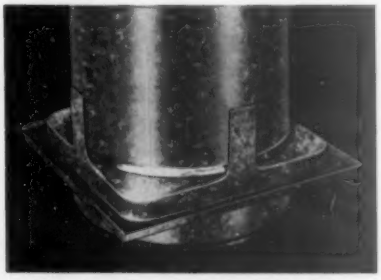
LIQUID METER DIVISION

ONE MAN,
ONE STOP,
ONE HOUR



Exclusive: New housings secure to roof framing with metal tension straps. Quick assembly – no metal screws required. Wind tunnel tested. Metalbestos Housings won't shift, buckle or twist in 100-mile-an-hour winds.

Exclusive: Twist-Lock. Light-weight Chimney Pipe sections fit together quickly with same action you'd use to twist lid on pickle jar. No mastic, cement or caulking.



Exclusive: New, Fast, Support Installation. Frame standard 16" on center opening – nail in support plate and insert starter section. U. L. listed.

M-1

METALBESTOS DIVISION
WILLIAM WALLACE COMPANY
BELMONT, CALIFORNIA

MANUFACTURING PLANTS IN BELMONT, CALIFORNIA • LOGAN, OHIO

in the throat and on the refractory, and produced a uniform fire with no blow-back around the nozzle. We get 12% or 13% CO_2 with a No. 6 or No. 7 smoke and 350°F. stack temperature with 8 psi steam pressure. We find this very satisfactory operation. The foregoing improvements ended most of the problems which troubled us earlier. However, we are unable to obtain a cleaner fire (lower smoke reading than 6 or 7) even with more primary-air or secondary-air, and that bothers us. Also, we still get build-up of carbon on the nozzle, which requires cleaning every day. Now there is no particular difference in combustion with the fueloil heated from 150°F. to 210°F.

"The throat tile and refractory lining give a dutch oven 24" long. Even then we get some oil on the fire-tube. Is it possible to get good combustion with less refractory than this, which some units try to do?

Suitable Temperature

"That raises a question I have never seen answered directly in your magazine. Is there a most suitable oil temperature or viscosity for a rotary-cup burner? Or do the cup speed, diameter, and nozzle angle make differences in the most suitable viscosity?

"I have seen statements that 300 to 700 is the most suitable range; that's in terms of SSU. *Also, how to end the sparks, indicative of poor atomization, in the fire? Once we thought that proper cup-line oil-temperature provided the whole answer, but our latest experiences teach us that other things are also involved including refractory surfaces and proper air mixing. Trying oil temperature up to 225°F. resulted in vapor trouble with the pumps.*

"In both these burners, the atomizing cups do not run true in spite of all the shimming we can do. They wobble .005" to .010", and I wonder is this important in producing poor atomization? Also we cannot shift the air-nozzles enough to make them truly concentric with the cups. How important is that?

"The cups we are using in these burners have square edges at their ends probably 1/32" thick. Another make has a rounded taper on the inside coming out to a knife edge. Still another has a straight taper out to a knife edge. Much general information is available on rotary-cup burner performance but little information is available on the finer points that make the difference between performance which is genuinely good and only fair.

"I conclude the big difference in packaged-unit installations lies in the man responsible, first, for the starting-up—then in the man responsible for fine points of adjustment and maintenance.

"In our area, a man installing and servicing a certain make of boiler-burner unit gets the cleanest, most troublefree fire that I've ever seen using No. 5 oil. None of the other do as well, and for this reason this make is building up an enviable reputation which I do not believe is attributable to better equipment alone.

"Regarding metering pumps and viscosity valves: I realize they are desirable but I can't agree that oil temperature variations are as unimportant with them as many claim. Even though the cup-line gph rate remains the same, a change in oil temperature with a resulting change in viscosity makes a change in the atomization which affects the fire appreciably.

"We need electric heaters which give much closer temperature control than is provided by the unit commonly used now on all No. 5 or No. 6 oilburners. Our cup-line heater unit which was installed later in addition to the original electric cup-line heater gives a temperature variation of 30°F. Much needed are either more sensitive thermostats for these electric heaters or means for stirring up or circulating fueloil in the heaters to lead to more uniform and slower temperature changes to which the thermostats can respond.

"I would like to see articles discussing the advantages and disadvantages of forced-draft and induced-draft package units, and also covering separate draft inducers, and sequence-type over-fire draft control for large installations.

J. H. G. T., Lynchburg, Va."

A. The following was prepared by

YOUR NUMBER ONE BUSINESS PROBLEM... CUSTOMERS

What do you really have to sell . . . to keep customers satisfied, to get new ones? SERVICE . . . the kind of service you can **promise** . . . and **deliver** when your trucks are Motorola radio-dispatched.

One of your customers calls in . . . he wants "fire-engine" service. You simply pick up the mike, radio the nearest man to handle the emergency. The problem is handled in minutes; no competitor will ever sway that customer over.

Isn't that the way you want to run your business . . . or would you rather sit on the emergency call and develop ulcers while you wait and wait for one of your drivers to call or report in . . . then send him right back out. This kind of operation cripples your business with increased overhead . . . and the customer still isn't satisfied!

How much longer can you afford to have your drivers and mechanics backtracking all over your territory? With radio it is just like you were sitting next to the driver all day long . . . helping him make decisions, make more calls. The money you save on gas, oil, overtime will pay for the radio and give you the competitive edge you need to push your business forward.

You've probably considered 2-way radio for your firm. There's no better time than now to get the facts. A Motorola radio specialist is waiting to help. Mail the coupon today.

MOTOROLA
2-WAY RADIO

Motorola Communications & Electronics, Inc.
A Subsidiary of Motorola, Incorporated,
4501 Augusta Blvd., Chicago 51, Ill. Dept. AFH113

☐ Mail me full fact kit on 2-way radio

☐ Have representative telephone for appointment

Name_____ Title_____

Company_____ No. of Vehicles_____

Address_____ Phone_____

City_____ Zone____ State_____

Superior Filtering for all Oil Burning Equipment!

Klemm MICRO FUEL OIL FILTERS

FF-430 U/L

There's a Klemm Fuel Filter for every standard burner using No. 1 and 2 fuel oil. Your choice . . . metal or glass bowl. "Millions Since 1932."

1. Practically no flow resistance—true depth filtration.
2. Simplified construction for simplified service . . . no tools required.
3. Eliminates nozzle and line clogging for increased burner efficiency.
4. All parts . . . Hi-Chrome and Brushed Zinc.

FF-430G

PK-150 U/L

JR-60

chemistone

Controlled porosity element assures sparkling, crystal-clean fuel oil every minute. Traps water . . . removes dust, rust and scale.

Klemm PRODUCTS

Division of
KLEMM AUTOMOTIVE PRODUCTS COMPANY
1722 North Damen Avenue • Chicago 47, Illinois
EXPORT: Guiterman Co., Inc., New York 4
CANADA: Elgee, Ltd., Toronto

John W. Schulz, technical editor of FUELOIL & OIL HEAT.

First and in general, your letter is an extremely interesting report on maintenance and service work which you have performed intelligently and intensively. You are using the combustion-test instruments that must be used to evaluate draft, CO_2, smoke readings, and stack temperature—when adjusting oilburners. In using these instruments, you are doing no more than is necessary, no more than you should be doing. But, believe it or not, some men still at this day and age try to adjust oilburners, and conjure up opinions about their efficiencies, without using the indispensable combustion-test instruments!

Second point, also in general: You are having trouble, which you describe well. Yet you can be thankful for the delivery of No. 6 oil to your plant of viscosity as low as 170 SSF at 122°F. The owners of many burners using No. 6 oil now are receiving much heavier oil than you describe, for the Commercial Standard specifies 300 SSF at 122°F. as the maximum viscosity for No. 6 fueloil. Many oilburner owners and servicemen report the delivery of No. 6 oil of the maximum viscosity—and report great trouble as the result.

You could be facing greater problems related to the delivery of fueloil as viscous as No. 6 oil can be according to the Commercial Standards. One burner owner recently informed me that in 1951 he switched from No. 6 oil to No. 5 because of burner misbehavior caused by the increasing viscosity of No. 6 oil. Today, he goes on, the No. 5 oil he receives is as heavy as the No. 6 oil that caused the burner trouble in 1951.

Your adding the auxiliary pump-set, as outlined in the third paragraph of your letter, certainly was a step in the right direction. Several articles which appeared in FUELOIL & OIL HEAT in recent years gave complete details on how pump-sets improve certain types of installations which use residual fueloils.

You are correct in being bothered because you cannot obtain smoke readings below No. 6 or 7 even

5 YEAR GUARANTEE

backed by large New England Insurance Co.

Distributor Inquiries Invited

ORIGINAL STEEL

Permanent Tank Bottom

Seal leaking tanks the sure, positive way at a fraction of the cost of a new tank . . . and enjoy a 5 YEAR GUARANTEE of the entire tank! Only STEEL bottoms give certain seal with no chance of leaking or buckling. A one-man, 30-minute job. Insist on the ORIGINAL STEEL Permanent Tank Bottom now being used by over 800 oil and service companies. Three standard sizes . . . all 10" wide . . . in 60", 66" and 72" lengths. If no distributor of STEEL Permanent Tank Bottoms is in your area, order direct from factory—at discount . . . or write for literature.

PERMANENT TANK BOTTOM CO.
600 WYNDHURST AVE. BALTIMORE 10, MD.

Stop Oil Leaks!

WITHOUT DOWN TIME and with UNIT in SERVICE!

Users' Reports Tell How OYLTITE-Stik can help you

". . . to make instant repairs on basement storage tanks . . . a great time saver."
A New York Oil Distributor

". . . on seams of large oil tanks where weld was not perfect."
A Wisconsin Fuel Company

". . . we punched a hole in the tank with an ice pick, then filled the tank and plugged the hole with the oil running out; it has held for months."
A Maryland Contractor

". . . to seal small holes of oil storage tanks, created through condensation."
An Illinois Contractor

". . . has done such a good job we do not want a service man to be without one."
A Pennsylvania Heating Company

". . . to repair leaks in domestic tanks inaccessible for repair by other methods . . . most satisfactory."
A Canadian Contractor

OYLTITE-Stik is one of the best time-savers and trouble-stoppers you can find.

• See your suppliers for OYLTITE-Stik or write direct on company letterhead for free sample.

LA-CO

LAKE CHEMICAL CO.
3086 W. Carroll Ave., Chicago 12, Ill.

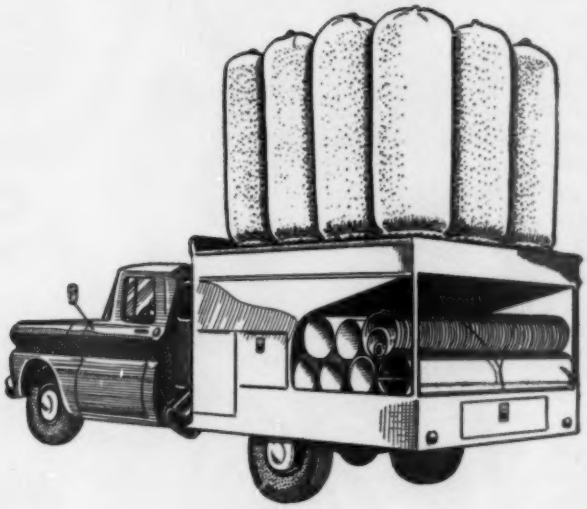
PRINGLE POWER-VAC

POWER-VAC CLEANING
IS AS IMPORTANT AS HOUSE CLEANING

PROFITS!
the kind to deposit
in the bank

PROFITS!
because your customers
appreciate the service

PROFITS!
the kind that helps
meet the payroll



KEEP IN TOUCH WITH YOUR PRESENT CUSTOMERS AND INCREASE YOUR FUEL SALES WITH A PROFITABLE SERVICE DURING THE SLACK SEASON

POWER TAKE-OFF OUR LONG USE, SINCE 1947, HAS PUT US YEARS AHEAD IN THIS MODE OF POWER

R. A. PRINGLE AND SON

508 CATHERINE STREET
WALLA WALLA, WASHINGTON

DESIGNED & BUILT by USERS! *not just for* SALE!

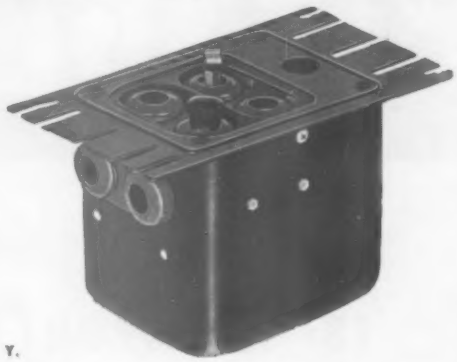
THERE'S ONLY 1 THERMOLOK-ADAPTO
IGNITION TRANSFORMER
AND DOES THE JOB OF 12!

Check these THERMOLOK-ADAPTO advantages:

- Reduces inventory space and costs
- Adaptable to 80% burners serviced
- Shielded to prevent radio or TV interference
- Eliminates temporary hook-up and callbacks
- Takes all standard terminal fittings
- Mid-Point grounded
- Has 3 sets of terminals
- Competitively priced
- U.L. and C.S.A. approved
- Guaranteed 18 months

These advantages speak for themselves.
Available in 115V or 220V—see your local jobber today!

THERMOLOK MANUFACTURING CO., INC.
1099D Tulip Ave., Franklin Square, Long Island, N. Y.



though you increase the primary-air or secondary-air flow (thus reduce the CO_2 and the efficiency) and though you try cup-line oil temperatures up to 210°F. The high smoke readings report numerically on the poor atomization which you notice also as sparks in the flame. Obtain low smoke readings and you will have no worry about sparks in the flame.

You have learned by actual experience that cup-line oil temperature is but one of the factors related to excellent atomization, low smoke readings, and high CO_2 readings. As you say, other factors include firebox design, highly effective introduction of primary-air and secondary-air into the flame, and proper air-oil mixing in general.

In answer to one of your direct questions: The package boilers you describe certainly need the amount of refractory material you installed in their combustion chambers; you improved the combustion by providing this refractory material. You say some units have less refractory; better atomization may be involved, or the use of fueloil lighter than No. 6. Because of the lack of refractory material, or combustion-chamber width, or both, certain oil-or-gas boilers cannot use No. 6 fueloil, and some of these can't even use No. 5 oil—but are oilfired by No. 2 or 4 oil which needs no preheating.

You say you have never seen in FUELOIL & OIL HEAT the answer to the question of what is the most suitable temperature for No. 6 oil flowing through the cup-line. Or what is the most suitable viscosity. That question has been answered in these terms: Any change that improves combustion is reported by instruments in the form of a lower smoke-instrument reading with the CO_2 reading unchanged, or in the form of a higher CO_2 reading with the smoke-instrument reading unchanged. Thus your instrument readings will lead you to the proper cup-line temperature for any particular oilburner. Different rotary-cup burners using the same fueloil need considerably different cup-line temperatures for best efficiencies. Usually, but not in every instance, nothing is lost by running the cup-line temperature 10°F. or 20°F. above that which gives best readings from combustion-testing instruments.

You have several questions about atomizing cups—their needing frequent cleaning, their running out-of-center, and their having "square edges" or knife edges. First, on many installations these cups need cleaning every day—the instructions of several burner manufacturers include the point that they should be cleaned daily. If considerably heavier No. 6 oil is delivered to your burners, their cups many need cleaning twice a day.

Obtain spare cups and use a file properly on their edges with the burner motors running, and you can kill two birds with one stone: (1) find out for yourself if atomization is improved by switching to a knife edge, and (2) true up the edges and wind up with cups running dead-center. Many rotary-cup burner ex-

IGNITION COMPONENTS CO.
P.O. BOX 423 BLOOMFIELD, N. J. PHONE: PILGRIM 3-9960

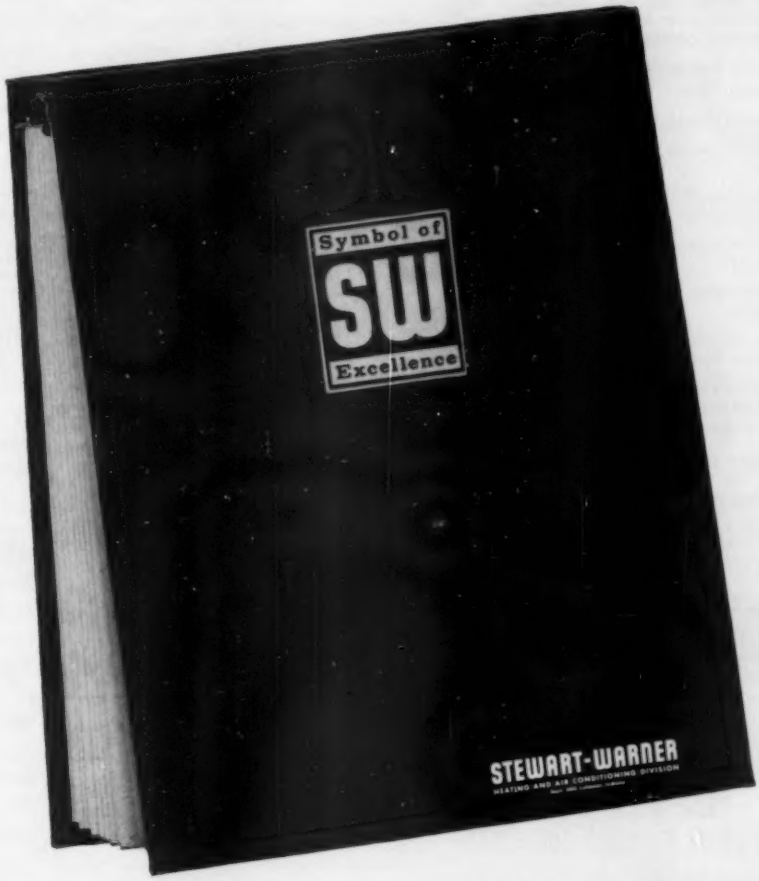
5 Basic Standard Type Ignitors . . .
Plus most complete line of 448 special designs

- IGNITION CABLE
- RAJAH FITTINGS
- PLASTIC "ROLL-UP" KITS
- IGNITION TOOLS
- BUSS BARS
- IGNITION ACCESSORIES

WRITE FOR NEW 1961 DEALER CATALOG
Engineering Facilities available to OEM

AMERICA'S MOST COMPLETE LINE OF OIL, GAS, ELECTRIC AND COAL HEATING AND COOLING EQUIPMENT

FOR SELECTED DEALERS ONLY...



The Stewart-Warner Corporation manufactures *only quality products* and sells them only *through competent dealers* who want to make a profit, not just swap dollars.

Therefore, in the near future, certain selected heating and air conditioning dealers throughout the country will be invited to see a presentation of Stewart-Warner's "Program for Profit." If you are among them, we believe you will find this visualization of the benefits of the Stewart-Warner Direct Factory Franchise to be *the most comprehensive blueprint for creating profitable business you have ever seen!* Especially if you feel that the line or lines of equipment you are now carrying can be sold only by beating somebody else's price.

The Stewart-Warner Direct Factory Franchise is a genuine opportunity for dealers who recognize that there is always a market for quality goods...always people who are willing and able to pay for better products. To these quality-conscious people, Stewart-Warner dealers everywhere are selling at an adequate profit...*because Stewart-Warner quality is easily demonstrated!*

If you believe that this is the kind of policy which will aid your own ambitions for a more successful business, write to us. There is no obligation in getting the facts.

Symbol of SW Excellence

STEWART-WARNER

HEATING AND AIR CONDITIONING DIVISION • Dept. H-41, Lebanon, Indiana

PRINTED FORMS
AND OPERATION AIDS
For Immediate Shipment

Check items you are interested in. Attach to your letterhead, mail for information, prices, FREE SAMPLES:

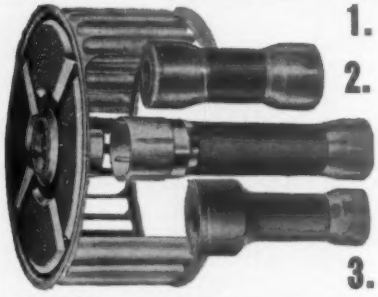
☐ Degree Day Cards
☐ Service Order
☐ Service Ticket
☐ Service Record Card
☐ Daily Record of Deliveries
☐ Service Dept. Record
☐ Authorized Receipt
☐ Door Knob Notice Card *
☐ Telephone Call
☐ Inter-Office Correspondence
☐ EZE Stick Pressure Sensitive Label *
☐ Price Charts
☐ Weather Temp. Recording Thermometer
☐ Safety Sidewalk Caution Signs
☐ Sort-O-Matic Rack

☐ METERED ONE-TIME CARBON DELIVERY TICKETS (Truck—Bulk Plant—Gas Pump)

My Name.....
Company.....
Street.....
City.....State.....
*Allow 2 weeks to imprint your copy.

Serving 20,000 Petroleum Firms Over 30 Yrs.
DEGREE DAY SYSTEMS
39-30F 58 ST., WOODSIDE 77, N. Y.

Guardian—
YOUR BEST SOURCE FOR
ALL TYPES OF FLEXIBLE COUPLINGS



1. Set Screw Dept. F-70 12
2. Splined Type
3. Jaw Type

Only Guardian gives you these features—
- ROLL SPINNING — Exclusive process joins all three components at one time — while in final operating alignment.
- BRAIDED RUBBER—Ground to absolve true concentricity. Furnished in BUNA-N TUBE and NEOPRENE COVER. Lateral and angular alignment requirements fully met.
- ONE-PIECE DESIGN — Minimizes assembly and handling costs. Made to exact lengths required.

Over 6,000,000 Guardian couplings are on original equipment. This is your assurance of highest quality and universal acceptance in the field.

Write for free descriptive literature covering couplings, service men's couplings kits, oil valves and Quik Joint compression fittings.

Guardian PRODUCTS CORP.
COUPLING DIVISION
Dept. F-41, 1215 E. Second St., Michigan City, Ind.

perts know how to do this, and though we cannot give full details here you probably will latch on to the idea. Of course the cup will run true only until you remove it and put it back again for one reason or another. But, cared for properly, a cup often remains on a burner for five years or longer.

Because the air velocity at the end of the cup is of tremendous importance, the experts servicing some rotary-cup burners try out air-snoots of different designs in upping CO_2 readings and lowering smoke-instrument readings. The snoots of some burners are adjustable; the snoots of others can be provided with shims or washers to cause their ends to be flush with the ends of atomizing cups, or 1/8" or 1/4" back (away from flames) from the edges of the cups. Thus according to many experts, altering the positions of the air snoots provides a method of adjustment.

To improve one make-and-model of burner which is not offered with air snoots of different designs, one expert fits pressed-in steel rings of different inside diameters into the air-outlet ends of spare snoots. A snoot is machined internally to take the rings, which are pinned in place. Maximum air velocity past the edge of the atomizing cup can be gained by reducing the space between the snoot and the atomizing cup to such a degree that the proper amount of primary air goes to the flame when the burner's primary-air damper or shutter is wide open.

Making up a set of snoots having different inside diameters really is research and development work which a serviceman should not have to undertake, particularly for a package boiler that comes with a burner supposed to match the boiler's requirements precisely. Yet this is one of the fine points, to which you refer in your letter, which makes the difference between fair oilburner performance and performance that's genuinely good. Failure to give proper attention to such fine points can result in many oilburner breakdowns per month, plus the burning of 50% more fueloil than should be used to heat the building.

The air snoots should, of course, be truly concentric with the atomizing cups within them. Always important, that becomes more important if you switch to air snoots of decreased inside diameter so that you obtain maximum pressure-drop and maximum air-velocity at the point where the primary air leaves the snoot and does its work of atomizing the fueloil. But probably by using only a drill to enlarge bolt holes, you can make the snoots concentric with the cups (you then can install two pins to insure proper concentricity every time the snoots are removed after cleaning) although for some burners lathe work may be either necessary or better.

You comment that metering pumps and "viscosity valves" are desirable but that you can't agree that with them oil temperature variations are as unimportant as many men declare.

On certain installations, burners having such modern gph-control arrangements start up nicely with No. 6 fueloil flowing to the burner pumps (not to atomizing cups) at temperatures as low as 130°F. or 140°F. The oil flowing to the burner pumps, or to auxiliary pump-sets, is heated while the big boilers are cold and the burners are starting—either by small boilers fired by light fueloil or gas, or by suction-line electric heaters of high capacity.

Then later when the big boilers become hot and their under-the-waterline or steam-type indirect oil heaters go to work, fueloil at temperatures up to 160°F. flows to the burner pumps or the pump-sets, but thanks to the use of metering pumps or "viscosity valves" the gph firing rate remains the same as it was when the burners first started.

No. 6 oil is becoming so heavy and viscous that burners using it should no longer be started with cold, unheated oil coming to their pumps, or their pump sets. That's a change in fashions of recent years.

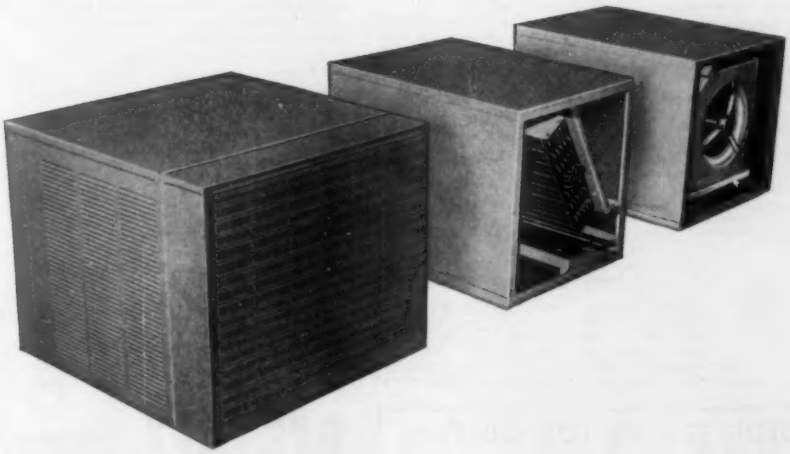
❖

Vincent N. De Cerchio appointed eastern division sales manager for Western Boiler Co., San Francisco. His territory will be from Bangor, Me., to Charlotte, N. C., and west to Pittsburgh.

PERFECTION IN FLEXIBILITY

Perfection Heat Pumps are *true* heat pumps — not reverse cycle air conditioners. Each inside coil has an extra row of oversize tubes to provide full capacity on the heating cycle. Perfection Tri-Pak Remote Heat Pumps (like the one shown) fit any installation requirement. Indoor coils and air handlers can be combined to provide any air travel required — vertical or horizontal, up or down, right-to-left or left-to-right. Saves time and cost in any installation. Easy to handle and service. And, Perfection Tri-Pak Air Conditioners give you the same kind of flexibility. Both heat pumps and air conditioners are available in 2, 3, 4 and 5-Ton capacities to give you a model for any job. Complete selling flexibility? You bet!

Perfectionists are a select group of distributors and dealers. Want complete details? Write Perfection Division, Hupp Corporation, 1135 Ivanhoe Road, Cleveland 10, Ohio.



PERFECTION

NO MISTEAKS

You can't go wrong with Fuel Oil Dealer Forms from CROMWELL, your best single source of top quality 2-color meter tickets and other items. Fast delivery, free catalog.

cromwell printery inc.

CHURCH AT BLEECKER, ALBANY, N. Y.

EVECO **ADJUST-O-DRAFT**

DRAFT CONTROL

Fully adjustable for precise accurate setting and instant response to draft variations: ADJUST-O-DRAFT is quality constructed. A cast aluminum ring with built in stops, concealed solid brass bearings, and other features, insure lasting dependability and maximum efficiency when you **INSTALL ADJUST-O-DRAFT.**

Available in sizes from 5 thru 12 inches.

MUTUAL MANUFACTURING CO.

45-18—162nd St., Flushing, L.I., N.Y.

FIRE BOX

fueloil & oil heat

WANT ADS

Advertisements are payable in advance 75c a line; minimum charge of $4.50 for 6 lines or less.

No Advertising Agency Commissions. No discounts.

NOTICE — Those writing to Box Numbers, address: c/o FUELOIL & OIL HEAT, 2 West 45th St., New York 36.

TURN YOUR SURPLUS INVENTORY of stoker, oil burner or gas controls into cash. Mail list and price to Box 885.

REPAIR THAT LEAKY FUEL OIL TANK with the new miracle fiberglas plastic Tank Bond. Apply to the outside of the tank. Put a new bottom in an old leaky tank and make it just as good as new! One can is enough to cover the bottom of a vertical 275 gal. tank. $4.05 per can or $45.00 per case of 12 cans. Order from Tank Bond, 400 F St. N.E., Washington 2, D. C.

DECALS—Service, nameplate or truck lettering and trademark made to your order. Easy to apply, uniform, distinctive, economical for small or large needs. Write for catalog. Mathews Co., 827 S. Harvey, Oak Park, Ill.

REPRESENTATIVES: Manufacturer of a complete line of heating and cooling equipment needs additional representation in the east, selling direct to dealers. Line includes oil and gas fired furnaces, packaged boilers, baseboard radiation and air conditioning. High commissions and bonus. Reply in confidence to Box No. 1533.

BUDGET PAYMENT PLAN. A complete budget plan for your fuel oil customers; tailored to your needs. All forms imprinted with your name and address. For free samples, write: CALCULATORS, P. O. Box 1054, Mansfield, Ohio.

SALES REPRESENTATIVE AVAILABLE for Southeast offers rare combination of experience and youth. Permanently located in Florida with established contacts. Technical and sales experience includes heating, air conditioning, electrical controls and precision parts to O.E.M.'s, wholesalers, dealers, as well as airplane and missile manufacturers. University degree, age 31, married, 3 children. Top industry references. Write "Sales Action," 5941 Bolling Drive, Orlando, Florida.

SALES SUPERVISOR for large Independent Fuel Oil Co., in Southern Conn. Must be able to direct Sales Dept. in Commercial and Residential equipment and oil sales. Send resume, write Box 1537.

NAMEPLATES FOR CONTRACTORS AND MANUFACTURERS—Now available your free 1961 catalog showing identification nameplates, valve tags, property tags, pressure-sensitive labels for Oil Burner Trade. Also decals and truck signs. Easy to affix. Low cost. Engineer and Code approved. Free samples and quotations. Write Seton Nameplate Co., Dept. F-14, New Haven 15, Conn. Inquiries welcomed from Manufacturers Representatives and Wholesalers.

MFR. REP., NEW JERSEY—selling heating & refrig. contractors, exclusive territory commission contract. Area unexpectedly open has been foremost producer for Jersey-based mfr., full line air and water cooling, oil & gas steel & cast iron residential & Com'l. boilers, baseboard, convectors. Inquiries held in strict confidence. Address Box 1538.

AVAILABLE—Fueloil executive, familiar all phases retail fueloil operation, top to bottom. Ideal as General Manager, or Assistant to President. Will make his employer happy and carefree by assuming burdensome management functions. Relocate as necessary. Reply Box 1539.

HORIZONTAL ROTARY AND GUN TYPE BURNERS FOR #4, 5 and #6 fuel oil SOLD—COMPLETELY REBUILT or EXCHANGED. Replacement parts and controls for same available. We buy used and defective heavy oil burners and controls. Send list of what you have on hand. Hasko Utilities Company, 879 Tenth Ave., New York 19, N. Y., or 80 Main St., Mineola, N. Y.

FIELD REPRESENTATIVES WANTED—Ten million presently installed oil burners need periodic and independent checking for efficiency, safety, and preventative maintenance. Can be a profitable white collar job (full or part time) to anyone capable of using Bacharach test instruments. Write for details. Sentinel Engineers—P.O. Box 703—Lynn, Massachusetts.

SERVICE MANAGER—Leading Fuel Oil Company—Long Island—Seeking capable man with good knowledge No. 2 and No. 4 oil burners. Must be qualified to supervise large staff of servicemen and dispatchers. Excellent opportunity. Attractive salary—Pension—other Benefits. Write in confidence. Box No. 1540.

MANUFACTURERS REPRESENTATIVE AND DISTRIBUTORS WANTED—Nationally known manufacturer selling the fuel oil industry wants aggressive representative or distributors who want to add three to five thousand dollars to present income. Product is nationally advertised and considered leader in field. Reply: Box No. 1541.

MANUFACTURERS REPRESENTATIVES WANTED—Who call on Heating & Oil Burner Wholesalers. A Specialty Tool Item. Proven active and plenty of repeat sales. State area covered and present lines. Write P.O. Box 167, Caldwell, N. J.

TO RETAIL HEATING OIL DEALERS in need of a PROFITABLE Spring & Summer Business. Write to—Ed F. Marquard, 16110 Detroit Avenue, Cleveland 7, Ohio. Consultant—Liquid Fertilizer, formerly with Allied Oil Co. (Cleveland). Now retired.

RETAIL SALES MANAGER—We are looking for an experienced man with retail sales background in heating equipment to expand and manage our retail sales dept. Attractive arrangements. Call K. O. Ralphs, Meenan Oil Co., Hempstead Turnpike, Levittown, N. Y.

OILHEATING INSTALLATION, SERVICE & SALES—GENERAL MANAGER—Fine opportunity with leading company in pleasant suburban New York City. Must have sound practical background in domestic engineering; ability to sell and train and supervise salesmen, servicemen and office personnel. Excellent opportunity for advancement for prompt appointment. Write in confidence. Box No. 1542.

HEATING SALESMAN—POWERFUL CLOSER to join active heating contractors. General Motors line. Salary plus commission. Specialize residential field modernization—all types of heating. Westchester, N. Y. Reply Box No. 1543.

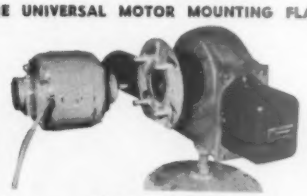
IT'S COLD!! THE MOTOR QUITS

No Spare in Truck or Shop Now Servicemen Carry

MOTADAPTOR®

THE UNIVERSAL MOTOR MOUNTING FLANGE

AT YOUR JOBBER



FITS OLD OR NEW MOTORS

U. S. PAT. 2510680

TRADE MARK

J. B. PRODUCTS 79 Waydell St. Newark 5, N. J.

NEW! RECTORSEAL #5

Thread and Gasket Sealing Compound
Slow dry — soft set.

Dopes more joints per dollar . . . prevents leaks at all pressures. Won't settle, harden, dry out or skin over in the open can. Write for Sample.

(If fast dry—soft set compound is desired use Rectorseal #2)

RECTORSEAL
Dept. O
2215 Commerce St., Houston 2, Texas

RECTORSEAL #5
THE POSITIVE LEAK PREVENTER

Use "CRESCENT PARTS" Service

Serving St. Louis Trade Area

"FACTORY REBUILT" Repair Exchange control service on all popular makes at regular manufacturers list prices and trade discounts.

CONTROLS
Minneapolis-Honeywell
White-Rodgers
Detroit • Perfex
Penn
Mercoid • General

Crescent Parts and Equipment Co., Inc.
MAIN OFFICE
825-831 S. Boyle Ave.
St. Louis 10, Mo.
BRANCH
540 Wimmer Place
East St. Louis, Ill.

OIL—GAS—STOKER
Parts & Controls
Installations Materials
& Accessories
Heating Specialties

LITE·CAST
COMBUSTION CHAMBERS
QUICK HEAT LONG LIFE

MONOGRAM has . . .

364 Standard Designs and sizes of LITE-CAST Insulating Refractory Combustion Chambers for ALL Boilers and Furnaces.

TONGUE & GROOVE JOINTS
•
HIGH SIDE WALLS
•
DOUBLE SEAL BETWEEN FLOOR & WALLS
•
PRE-CAST FLOOR
•
AIR SPACE BENEATH FLOOR

.75 TO 23 GALLONS PER HOUR

MONOGRAM PRODUCTS CO., INC.
731 NORTH 35th STREET, PHILADELPHIA 4, PA.

—A—

American-Standard Air Conditioning Division 89
American-Standard, Controls Division 110
American Telephone & Telegraph Company 15
Applied Mechanics Company ... 92
Atlantic Refining Company 77

—B—

Babcock & Wilcox Company... 102
Bacharach Industrial Instrument Company 120
Bell & Gossett Company 17
Bethlehem Foundry & Machine Company 78
Blackmer Pump Company 88
Boston Machine Works Company 19
Bridgeport Chemical Corporation 30, 31
Brodie Company, Ralph N. .....Inside Front Cover

—C—

Century Engineering Corporation. 114
Commercial Filters Corporation.. 116
Controls Company of America.. 33
Crane Company 93
Crescent Parts & Equipment Company 131
Cromwell Printery, Inc. 130

—D—

Degree Day Systems 128
Delamater Mfg. Co. 118
Delavan Manufacturing Company. 9
Dewey Gas Furnace Company... 76
Dongan Electric Manufacturing Company 16
Dunkirk Radiator Co. 104
Dura-Vent Corporation 113

—E—

Eckhart Manufacturing Company, Inc. 32
Econo Products Company, Inc. .. 100
Edwards Engineering Corporation 110
Electric Furnace-Man, Inc. 112
Electrol Burner Mfg. Company.. 76

—F—

Ford Motor Company 28, 29

—G—

General Electric Company ...79, 95
General Fittings Company 26
General Refractories Company .. 105
General Spray Service, Inc. ... 114
Granberg Corp. 37
Guardian Products Corporation.. 128
Gulf Oil Corporation 42, 43

—H—

Hago Products 81
Hannay & Son, Inc., Clifford B. 99
Harvey, Inc., Sid 92
Hayward Oil Burner Corporation. 131
Henry Furnace Co., The 10
Hess, Inc. 21
Hydrovalve Company 96

—I—

Ignition Components Company .. 126
Industrial Combustion, Inc. 107
Iron Fireman Manufacturing Company 119

—J—

J. B. Products 130
Janitrol Heating & Air Conditioning Division of Midland-Ross Corporation 35, 36
Johnson Company, S. T. 74
Johnson Degree Day Systems, Division of Oakley & Oldfield. 18

—K—

Kenite Laboratory 126
Klemm Automotive Products Company 124
Kraissl Company 72

—L—

Lake Chemical Company 124
LeFebure Corporation 97
Lennox Industries, Inc. 101

—M—

Mack Trucks, Inc. 40
Mastercraft Industries, Inc. 94
McDonnell & Miller, Inc.. Back Cover
Meyer & Sons, Inc., William W. 108
Minneapolis-Honeywell Regulator Company 24, 25, 75, 91
Monarch Manufacturing Works, Inc. .....Inside Back Cover
Monogram Products Company... 131
Motorola Comm. & Electronics . 123
Mueller Climatrol 85
Mutual Manufacturing Company. 130

—N—

National Airoil Burner Company 73
Neptune Meter Company 121

—O—

OPW Corporation 20
Oil Heat Institute of America... 106
Olsen Manufacturing Company, C. A. 44

—P—

Peerless Corporation, The 90
Perfection Division, Hupp Corporation 129
Permanent Tank Bottom Company 124
Pringle & Son, R. A. 125
Pullman Vacuum Cleaner Corporation 98
Pyramid Instrument Corporation . 23

—Q—

Quiet Automatic Burner Corp. .. 34

—R—

Radio Corporation of America .. 87
Rectorseal 130
Rockwell Manufacturing Company 83
Roper Hydraulics, Inc. 22

—S—

Scovill Manufacturing Company.. 7
Scully Signal Company 86
Silent Automatic Products 109
Sinclair Refining Company 82
Smith Corporation, A. O. 41
Steinen Manufacturing Company, William 103
Stewart-Warner Heating & Airconditioning Div. 127
Sun Oil Company 27
Sun-Ray Burner Mfg. Corporation 4
Sundstrand Hydraulics, Division of Sundstrand Corporation ... 3

—T—

Tankit Company 120
Thatcher Furnace Company ... 80
Thermolok Manufacturing Company, Inc. 126
Thrush & Company, H. A. ... 111

—V—

Victory Engineering Corporation. 38
Vulcan Electric Company 72

—W—

Webster Electric Company 115
Weil-McLain Company 117
William Wallace Company 122
Williamson Company, The 39
Worcester Brush & Scraper Company 131

HAYWARD
Rotary Atomizing Burners
¾ to 12 Gph
Boiler-Burner Units
400 to 730 Sq. Ft. EDR Steam
Pressure Atomizing Burners
¾ to 10 Gph
Boiler-Burner Units
200 to 2000 Sq. Ft. EDR Steam

HAYWARD OIL BURNER

Write for franchise information:
HAYWARD OIL BURNER CORP.
125 Winter Street, Taunton, Mass.
Branch Office:
86 Kirkland St., Cambridge, Mass.

Truck Talk

by Chet Cunningham

ARE YOU ONE of the tough ones? The big strong type who can lick his weight in rattlesnakes and laugh off a broken arm or two? If so give heed. Sometimes it pays to be a sissy! Here's what happened to a mechanic in a construction outfit—but it could happen to you or your fueloil truck mechanics any day of the week.

A mechanic was working on a truck repair job when he cut a finger. Not a big slice, only 3/8th of an inch. Didn't even bleed much.

The mechanic went on working. He washed off some small parts in cleaning fluid and then blew them dry with an air hose. The compressed air stung the cut a little, but so what?

A short time later the mechanic, in great pain, staggered up to his foreman and collapsed. He was rushed to the hospital.

The doctor's diagnosis: Air bubbles in the blood stream along with traces of cleaning fluid. The M.D. gave it to him straight. "Son, you almost died!" One cubic centimeter of air in the blood stream is usually enough to kill.

A simple band-aid over the cut would have prevented the trouble. The moral: Never use compressed air on an open wound: get immediate treatment for any injury—even a scratch.

The ending? Happy. The mechanic recovered—but only after he spent four days in the hospital. As he recalls now, it wasn't a very pleasant experience.

Management tip: The supreme court recently upheld a decision that could effect your income tax. It said that the useful life of a depreciable asset means the normal time a taxpayer uses that asset, not the physical life of it. So if you normally trade-in some of your fuel-oil trucks after four years, you are entitled to use that figure to determine your annual depreciation even though the life of the rig is 10 years. You must also figure in salvage return.

Are you keeping the right kind of records on your fueloil trucks? Do you know how much it costs you to operate every piece of equipment on your lot for each month? If you don't you should consider revamping your records.

Without good cost analysis records it is almost impossible to tell whether or not your equipment is paying for itself—or costing you twice what it should to operate.

Talk to your accountants. Have them set up cost accounting books for your trucks and equipment so you can find out if it is paying for itself. Have the system tailored to your needs.

You should include costs of all types such as maintenance, down time, fuel, lubrication, parts, labor, repairs and financing charges. Also show how much fuel each truck delivered each month. Try this on a monthly basis and see what kind of results you get.

Don't let the figures lie to you. These should all be realistic rates, realistic costs, etc. Done properly you should be able to track down all of your truck costs. You should know when one truck is costing you too much in repairs and down time. That truck should be reviewed for replacement.

If fuel and oil consumption go up on one truck, it may be a sign of poor driving, or of something wrong mechanically. Pull that truck out of service and give it a check.

Also have a maintenance card for each truck in a permanent file. This way you can easily follow its history from new to trade-in. Each time something is done to the truck enter it on the card along with the mileage.

Keep a file card system so you know when each rig is due for lubrication, overhauls, reconditioning. And of course use a depreciation record for each rig for tax purposes. With these records you can make practical decisions about your trucks.

Wish you could run your trucks 100,000 miles without an oil change? It's being done by the city of San Fernando, Calif. They have a police car with "over 100,000 miles" on it. The oil has never been changed and the valve covers never removed.

The answer is the oil filters. They believe that the use of the right oil filter can appreciably reduce engine wear.

At San Fernando they use Fullers Earth filters on all city equipment. They take oil samples for chemical oil analysis on all rigs. Each succeeding evaluation showed less ash content, less precipitants and fewer Kissling resins.

These filters even pick up resin deposits that were left in the engine previously and are now being flushed out. Since the acids, gums, varnish and solids can be effectively removed by the Fullers Earth filter, it was decided that a detergent oil would not be necessary.

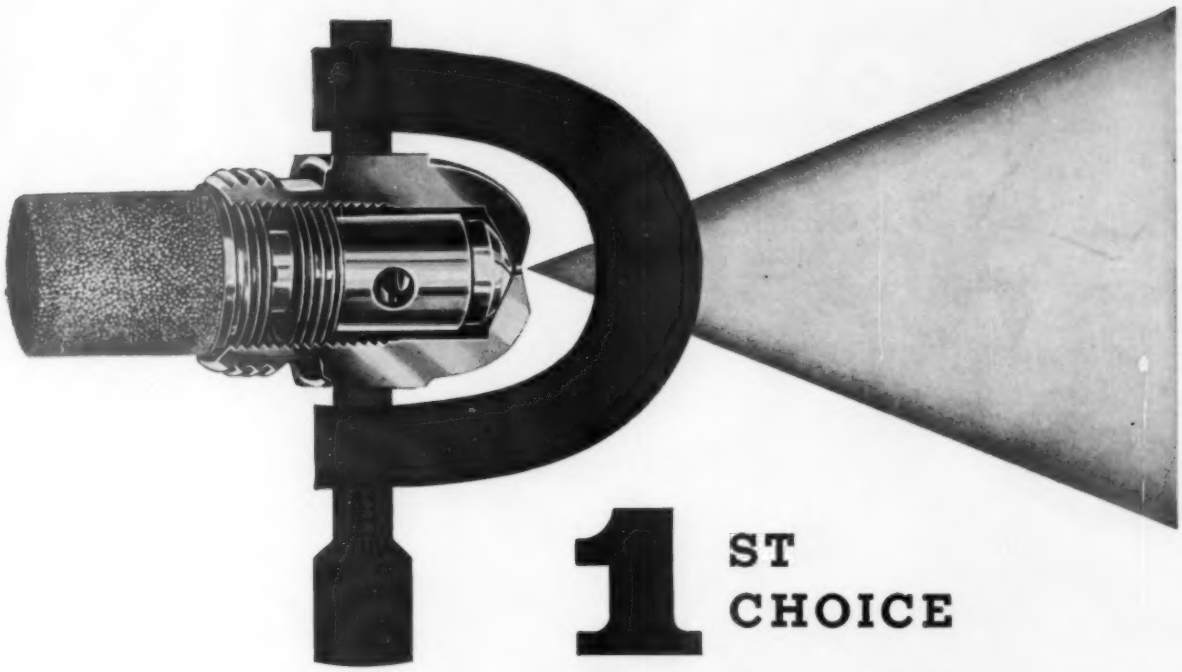
After trial and error, a straight mineral oil with an inhibitor and a pour depresser added was put into all new equipment and never changed. They use 4 x 6 inch Fullers Earth filters and change them every 2,000 miles.

Ash content has dropped to .03 percent, only a trace of precipitates and no water or Kissling resins are found on most analysis. Spark plug life has tripled to 30,000 miles even on the low-speed idling type police rigs. The same procedure on filters is used on all heavy rigs too, such as dumps, loader-packers, jeeps, tractors.

A savings of 75 percent on oil and oil change labor has been realized. The Fullers filters cost only 75 cents more than those previously used.

In three years not one of the filters has broken, and not a grain of the Fullers Earth has entered an engine. Needless to say, the people at San Fernando are sold on these filters.

Smoke while driving your fueloil rig on deliveries? The National Safety Council suggests that you keep a window open while you smoke. Three cigarettes give off enough carbon monoxide to bring your vision to a danger point, when the fumes are trapped in a truck cab. The fumes won't kill you—but an accident they cause could.



1ST CHOICE

OF THE INDUSTRY

SINCE 1926

Monarch PRECISION NOZZLES

WHAT IS MONARCH PRECISION? Exclusive machines designed and manufactured by Monarch permit *regular* nozzle production to tolerances of 1/10,000 of an inch . . . certain critical dimensions within even closer limits! This, plus *individual* testing on *oil* is your assurance of perfect nozzle performance . . . *always.*

WHAT DOES MONARCH PRECISION MEAN TO YOU? EXTRA PROFIT on service contracts! Precision-made, precision-firing Monarch Nozzles eliminate excessive costs on call-backs due to faulty nozzles.

EXTRA ECONOMY! Eliminate trial and error with Monarch Nozzles. You can depend on them for uniform fires . . . and continuing proper performance even after long use.

EXTRA SATISFACTION! You have the double-satisfaction of a more profitable service operation, and customers with full confidence in *you!*

ALWAYS INSIST ON MONARCH PRECISION NOZZLES!

AIR MIXING EQUIPMENT

COMBUSTION HEADS:
G-81-C Head is as easy to install as an ordinary Air Cone and Stabilizer. Produces high CO_2 with no "adjustments" to get out of order. For 3⅞" or 4" I. D. Air Tubes.

CONVENTIONAL:
Bladed Cone Rings and four blade Stabilizers for ordinary Air Tube replacement from 3½" to 8" I. D. Also special "Anti-Pulsation" equipment.

Also available: Flame Mirrors, "24" and "48" Nozzle Boxes, Racks, Wrenches, etc.

DEALERS: Buy from your Monarch Jobber. Write for Catalog "O"

Monarch
MANUFACTURING WORKS, Inc.
2503 E. ONTARIO ST., PHILADELPHIA 34, PA.
Canadian Agent: (Except B. C.)
E. S. Gallagher Sales Ltd., Toronto 15, Canada
Exclusive Agents in all of Europe, Great Britain, Australia and New Zealand

REMEMBER: It costs more to clean a nozzle than to replace with a new, precision, guaranteed-uniform Monarch Nozzle.

GOING STRONGER THAN EVER!

More and more of these Electric Water Feeders are being added to McDonnell Low Water Cut-offs

Here's why:

When you add this No. 101 Electric Water Feeder to a McDonnell No. 67 or 69 Series or any other McDonnell "twin switch" Low Water Cut-off, you kill two birds with one stone:

1 You give owner something he needs and likes—the fully automatic boiler water level control of a combined water feeder and low water cut-off.

2 You end unnecessary shutdowns, and the headaches they cause . . . end them because the No. 101 is right there to keep the boiler going through periods when otherwise the cut-off might stop the burner.

The story is simple: Every McDonnell No. 67 or 69 Series Cut-off is provided with an extra "feeder" switch that is practically shouting for a No. 101. Many No. 101's have been hooked up to these "feeder" switches on oil fired jobs. But despite the fact that they are going stronger every year, the big oil fired market has scarcely been touched.

That is one big field, but it is only half the story. There are also a large number of gas fired boilers, equipped with No. 67 and 69 Series cut-offs. These Cut-offs have been crying in vain for the No. 101 . . . but now comes the good news:

New model with transformer now takes care of the gas boilers

A new and equally effective electric feeder—No. 101-24V—has been developed for gas boilers having low voltage control circuits. It has a special low voltage coil and comes complete with a companion 24V transformer. Regulations prevented wiring line voltage into a terminal box having a low voltage circuit, but the 101-24V completely overcomes this objection by making *both* circuits low voltage.

Note the simplicity of piping and wiring the No. 101. See it on display at your wholesaler's. Ask for latest bulletin.

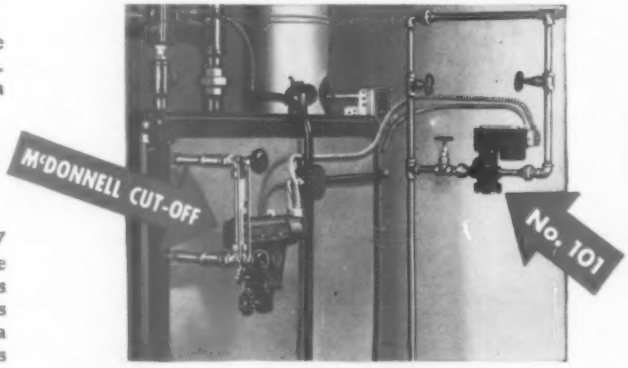
McDONNELL & MILLER, Inc.
3500 N. Spaulding Ave., Chicago 18, Ill.

Doing One Thing Well

Ordinary Solenoid Valves won't do

The No. 101 was specially designed to perform essential functions that cannot be properly handled by a conventional solenoid valve! The No. 101 valve is spring loaded to give it powerful drip-tight closure against any city pressure, and a compound leverage system assures positive valve opening by the solenoid. A button for manual feeding—exclusive feature—facilitates filling, makeup, and testing. It has the same time-tested valve mechanism and built-in strainer found in other McDonnell Feeders. Straight-through ½ inch inlet and outlet pipe connections simplify installation.

No. 101 and 101-24V are for boilers up to 5000 sq. ft. capacity; maximum steam pressure, 25 psi; maximum water supply pressure, 150 psi.



Makes the boiler water level as automatic as the firing

Nothing could be simpler: Simply insert the No. 101 in any horizontal section of cold water piping above or below water level. Wire it into the "feeder" terminals of any McDonnell "twin switch" Cut Off.

Ask Jobber

McDONNELL Boiler Water Feeders